LINGO-ENTRAINMENT: THE NATURAL LANGUAGE SURVEILLANCE

OF SMARTPHONE USERS

by

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Bachelor of Arts, University of Toronto, 2017

A thesis

presented to Ryerson University and York University

in partial fulfilment of the

requirements for the degree of

Master of Arts

in the program of

Communication and Culture

Toronto, Ontario, Canada, 2020

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ABSTRACT

Lingo-Entrainment: The Natural Language Surveillance of Smartphone Users

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Master of Arts 2020

Joint Graduate Program in Communication and Culture

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This thesis examines the neuro-cultural implications of: (1) language capture and commodification; and (2) neurological entrainment, two processes that I contend have coextensively emerged with the development of smartphones in a way that is profitable for major smartphone manufacturers and privileged third parties. The phrase "neurological entrainment" in this context refers specifically to the smartphone's ability to exert affective behavioural control over smartphone users by altering their neurochemical states. I aim to situate this established neurological phenomenon alongside a less scrutinized transformation: that of the smartphone into a site of language-capture. By "language capture" I refer to the intake, collection and brokering of smartphone users' natural language data and metadata. The goal of this thesis is to contextualize the interfusing of these entrainment and capture processes that cunningly form lucrative linguistic relationships between smartphone users and their devices. This study, through a comparative content analysis of data policies, privacy protocols, and privacy related promotional material pertaining to two major smartphone manufacturers (e.g., Apple and Samsung), substantiates the claim that the foundational documents of each device openly permit this productive union, with its doubled effect of neurological pacification and linguistic

divestment. It also situates these findings within the grander lingo-entrainment systems that

influence the future of our living language, and that coincide with Deleuzian premonitions about

societies of control.

ACKNOWLEDGEMENTS

Many people, some inadvertently, have helped the creation of this work. I am especially thankful to my supervisor Steve Bailey for our many long conversations, his constant intellectual encouragement, and for shielding my freedom to fully pursue the ambitions of this project. I would also like to thank my committee members and key draft readers, Rob Heynen and Greg Elmer, for their thoughtfulness and candor.

I am especially indebted to my course instructors over the past year, specifically Boris Pantev, for his insight, kindness, and philosophical bravado which opened up many channels of thought that culminated in this thesis. I would also like to thank Ope Akanbi for her enlightening course on data politics, Marcus Reisenleitner for his nuanced readings of many theorists, and to Jan Hadlaw for a thought-provoking introduction to my thesis program. Thanks are also due to both Jeremy Shtern and Sarah Edmonds, who offered more guidance and advice than I can adequately sum up.

I am unconditionally grateful to my family: my father, Xavier Fazio, and my mother, Margaret Fazio, have always unhesitatingly trusted my scholarly endeavors, nurtured my literary habits, and understood the necessity of my attraction to difficult and often abstruse topics. I must also thank my aunt, Laura Rosella, for her continued support, my sister Isabel for being such a good confidant, and my grandfather, Lucio Fazio, for his warmth and inspirational spontaneity. I would like to also thank my friend and colleague Josh Dittrich for our discussions about difficult moments of writing, personal ordeals, and excitements. Lastly, I would like to thank Brianna Mullin, for more than I can say, but especially for her unwavering love and support during stretches of illness that threatened the completion of this work.

DEDICATION

To Brianna

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Chapter I—Introduction

It is hard to imagine a time before we had the world in our pocket. Mobile computing devices, behaving as technological composites—camera, music player, web browser, e-mail, telephone, flashlight, calculator, world map—took on a new name midway through the first decade of the century. A New York Times article written on the day following Apple's now mythologized iPhone-reveal press conference referred to these composite devices as "so-called smartphones", shortly after quoting an attendee who with avaricious enthusiasm remarked upon the device's design and functionality: "It's like they read our minds" (Markoff, 2007). Since then, smartphones have proliferated: surveys from 2019 estimate the number of global smartphone users to be above 3 billion—a cohort that makes up approximately 66% of the 5.1 billion individuals globally subscribed to any mobile device services (Statista, 2019; GSMA, 2019). This sheer quantity of use is especially noteworthy because of its wider context: smartphone technology has emerged at a time when neuroscience and language data brokering—two practices the smartphone finds itself implicitly connected with—are flourishing.

The first has, for all the advances it enabled, shown an ugly side in recent years when scientists, with a surprising lack of ethical foresight, began modelling, growing, and testing (for photosensitivity, among other things) *in vitro* "human brain organoids"[1] (Quadrato et al., 2017; Mansour et al., 2018). These nightmarish concoctions—which lie at the forefront of a bio-

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[1] These 4-millimetre blobs are grown in bioreactors from droplets of ectodermal cells (embryotic cellular runoff harvested from pluripotent human stem cells) that differentiate into "neural precursor cells", then thicken into a "neural plate", and finally "fold inward" into a "neural tube" that "subsequently gives rise to the brain and spinal cord" (The Economist, 2013; Purves et al, 2008, p. 545-546). Cerebral organoids do not grow—yet—into fully sized human brains, but do develop, in the span of a month, both neurons and regional behaviour; a UC San Diego researcher just last year grew brain-organoids with hippocampi and glia cells that possessed "brain waves resembling those of newborns" (Begley, 2019; Cepelewicz, 2020).

engineering revolution—are indicative of a greater "neurocultural" turn that is exhibited by the affect-centric human-computer-interaction design principles implemented in smartphones, perhaps to a degree unparalleled by any other contemporary ICT (information-communication technology) (Frazzetto & Anker, 2009; Gibbs, 2010, p. 192). Such is indicated by the phenomenon of "problematic smartphone use", the way smartphones interfere in social interactions, and thus the deleterious effects they have on individual well-being (Kushlev et al., 2019; Rozgonjuk & Elhai, 2019). This is without even reckoning with the burgeoning study of addiction as seen through the neurobiology of smartphone users, which will be discussed later.

The second practice implicating smartphones, as I wager throughout this study, is language data brokering. Indeed, mass user profiling facilitated through language-data collection and monetized via audience auctioning has, since Google's search engine launched in 1998, risen disproportionately over other internet business models; its harnessing of search engine queries in conjunction with Google Display Network's advertisement deployment comprised the overwhelming majority of parent company Alphabet's *hundreds of billions* in revenue for 2019, an unimaginably lucrative procedure that even at the outset of the decade earned the honorific "Google Capitalism" for its vast influence (Fuchs, 2012; Google, 2019; Trefis, 2019).

The world has not slept idly by during all of these developments. Lawmakers and journalists, the latter more quickly than the former, have produced much hullabaloo about the elusive topic of "privacy", especially in the years since Edward Snowden's infamous NSA document leaks. The massive language surveillance and capture apparatuses established as inestimably profitable by Google in the decade prior—at the core of which lies surveillance; our language is watched, digested, processed, sub-processed, sold to third parties, turned into advertisements, and fed into systems beyond the reach of our eyes and our comprehension—have

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founded an entire industry of data brokerage, and precipitated the "big data revolution" that impacted everything from healthcare to baseball over the last ten years (Berkon, 2017; Truong, 2018). The architecture of these systems, for all their aesthetic opacity, remains exposed, ironically, through language itself, in legally binding documents that protect smartphone and hardware manufacturers from all manner of liability. But they do more than protect—they also permit, include, defer, pretend, and craft. Located at the centre of this verbal quincunx is our linguistic self, ICT in hand. This legal-linguistic architecture calls for linguistic analysis, hence my decision to perform a thematic content analysis, within the transformative-emancipatory methodological framework, on documents pertaining to the two best-selling smartphones in North America.

This analysis will empirically validate fundamental claims about the language capture process itself. In doing so, my thesis will be able to speak with full transparency about the extent to which the lucrative cycle of linguistic divestment is baked into the base functioning of smartphones. Empirically establishing the existence of widespread lingual divestment allows it to be theoretically married, *a fortiori*, to the other major cycle present in the same space and time on the smartphone screen: the strongly preestablished and neurologically rooted cycle of smartphone-centric affects and attentions. The sublation of these two processes—one neurological and one lingual—into a larger concept, namely that of *entrainment* (with all of its political connotations), thus birthing *neuro-linguistic entrainment*, is the major theoretical contribution of this dissertation.

Put another way: the goal of this thesis is neither to inductively re-establish laws of neurological entrainment or language capture, nor is it to deductively isolate the smartphone as a specific case exemplifying these laws. Rather, the goal is Peircean abduction, or the creation of a

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new *context* for the smartphone in which it is thought of as more than just a technological artifact

of the early 21st century, and instead reconceived as a distinct *site of collision and capture* for

language and attentions (Fann, 1970). This abductive reinterpretation (achieved after validating

claims regarding language collision and capture) importantly accords with the two

aforementioned movements that financially dominate and technologically preoccupy North

America today: the territorialisation of language (and the "immaterial" more generally) by

capital, and the rapid slide into our modern neuro-culture.

The purpose of recontextualizing the smartphone in terms of these greater cultural

streams of thought is to, ultimately, emphasize their effect on social organization. When Gilles

Deleuze published his "Postscript on the Societies of Control" in 1992, he foresaw the

emergence of an imposed social order far subtler and more conniving than Foucauldian

institutional power, one that revolved around surveillant technologies, datafied subjects, and the

forking powers of limitation and access. This thesis uses the smartphone as an entry point into

this new neuro-techno-cultural context, and in doing so argues for the smartphone's importance

in reifying and perpetuating this context. The glowing rectangle is a hallmark technology of our

times, one that for the 21st century embodies, as Sheldon Wolin wrote long ago in his essay

"Political Theory as a Vocation", the "giant, routinized structures" of our time that "defy

fundamental alteration and, at the same time, display an unchallengeable legitimacy, for the

rational, scientific, and technological principles on which they are based seem in perfect accord

with an age committed to science, rationalism and technology" (Wolin, 1969, p. 31). This

thesis blends philosophies of language and mind with cybernetic and critical theory, and

through a thematic content analysis of the two most popular North American smartphones

illuminates the ways in which the smartphone is emblematic of a social order managed by

information and control.

Chapter II—Literature Review

Reconceptualizing the Smartphone: Towards a Critical Neurocentrism and Vitalist Theory of Linguistic Subjectivity

"Imp Plus knew that the more that was all around and was from him was growing from his brain" (McElroy, 1987, p. 79).

"Believe me, on mine honour,
My words express my purpose" (Shakespeare, Measure for Measure, Act 2, Scene IV).

We may begin this chapter by acknowledging that the smartphone is a unique tool in the history of technology. Its most notable characteristics are its transportability (and thus unfixed locality) and its ability as a device "connected" with either WiFi routers or cellular data towers to facilitate *finding things out* by searching the internet or communicating with other smartphone users. That the smartphone is a commissure between realms of communication and information is somewhat obvious: less obvious, but more vital, is that the smartphone is a locus of attraction for *attentions* and *language*. Before delving into the why and how of these facets of smartphone activity, we must take a step back to explain plainly the biological and linguistic systems that a smartphone interacts with, and their significance.

In order to do this my literature review must bifurcate into philosophy of language, culminating in a theory of language pertaining to typed, written, or (especially in the case of smartphones) thumbed word-data, and philosophy of mind, culminating in a critical neurocentrism that highlights the role of attentions in the physiological relation between smartphones and their users. The bond between these two philosophical realms is in one sense the elusive bond between brain and mind, between neurology and consciousness. In a much simpler sense, the unifying bridge between these two literatures is their habitation in the human body, and the human body's notorious linguistic propensity. The linguistic inwardness of consciousness and the neurology of attentive feedback loops both occur inside a body that for the purposes of this study is holding, gazing at, and periodically typing into a smartphone. This will be elaborated upon further, but for now we must restrict our queries to two domains. I will briefly examine the nature of the relationship between: (a) our phones and our brains; (b) our brains and our language. A synthesizing assessment of the relationship between language and smartphone use will occur in the content analysis following this chapter.

Smartphones and Brains: From Cybernetics to the Chaosmos

A good starting point for any analysis of human-computer interaction (which is in a way the crux of this thesis) is with the grandfather of systematized cybernetics, Norbert Weiner. The appropriateness of beginning with cybernetics lies in a naïve isomorphism that may be drawn between the smartphone and the human brain as artificial and organic systems of inputs and outputs, respectively. And further still, the general logic of feedbacks plays an important role in the final claims of information and control that round off this thesis.

Weiner and the Cybernetic System

The works of American polymath Norbert Wiener, which dilate with deliberate interdisciplinarity, can nonetheless be summarized, like all great philosophies, in a single terse dictum. Wiener's "*Cogito*" can be found in the main chorus of a paper written alongside Arturo Rosenblueth and Julian Bigelow titled "Behaviour, Purpose and Teleology", where the trio state: "All purposeful behavior may be considered to require negative feedback" (Rosenblueth et al., 1943, p. 19). The significance of this statement within its accompanying historical context cannot be underestimated. Weiner and his colleagues here isolate the core principle of the cybernetic project, namely that all behaviour of any kind is either active or passive, and if active is either purposeful or non-purposeful[2], and if purposeful either entails feedback (is teleological) or does not entail feedback (is non-teleological), and if it entails feedback is either predictive or non-predictive in increasing *orders* of prediction scaling roughly alongside cognitive capacity (Rosenblueth et al., 1943, p. 22). This specific blueprint attained for much of the 20th century a

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[2] The trio meditate briefly on the "purposelessness" of clocks—that is, the absence of a "specific final condition toward which the movement of the clock strives" (Rosenblueth et al., 1943, p. 19).

kind of hegemonic status in systematically mapping and explaining human behaviour, and, importantly for us, hinges on the previously unarticulated difference between negative and positive feedbacks, and their respective effects on the relations between inputs and outputs within living organisms. The example offered by Rosenblueth, Bigelow and Weiner of positive feedback is "an electrical amplifier with feed-back" wherein the sound emitted "reenters the object…[with the] same sign as the original input signal" (1943, p. 19). This is contrasted with negative feedback, which reenters *corrective* signals into the system; put another way, negative feedback restricts outputs that differ from the system's implicit teleology (Rosenblueth et al., 1943, p. 19). This distinction on some level encapsulates what happens when a human uses a smartphone.

However, by drawing parallels in his book *Cybernetics: Or, Control and Communication in the Animal and the Machine* between the diagrammatic systems-level functioning of machines, and body temperature regulation, osmotic pressurization of blood, waste matter excretion, leucocyte stocking and calcium metabolising (ie. "homeostasis") within the human body, Wiener puts us in the uniquely cybernetic position of treating computerized machinery[3] (often explicitly) as functionally similar to the human body (Wiener, 1961, p. 114). The significance of Wiener's outlook for our present object of study is that in its strongest form, human beings can be (somewhat inhumanely) viewed as nothing more than complex automatons; but in its weaker form, this outlook presupposes merely that human beings possess internal systems that interact with environments along the grooves of various biological feedbacks, thus rendering the human being permeable, sensitive to "affective tones" of pleasure or pain, and, if

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[3] The dual states of "firing and repose" among neurons is compared to binary code (01100010) systems in computers (Wiener, 1961, p. 121).

fully *possessed by* the internal systems they themselves possess, controllable (Wiener, 1961, p. 129). This second, softer reading of Wiener's argument escapes free-will debacles by allowing for some master agency, either inattentive or alert, within the un-animalistic regions of the human subject—some small wiggle room of biological *in*determinism or underdetermination. This freedom-preserving reading of Wiener's human subject is not dissimilar to Whitehead's universal people, who, as he wrote roughly a decade prior, "are driven by their thoughts as well as by the molecules in their bodies, by intelligence and by senseless forces" (Whitehead, 1933, p. 53).

Nevertheless, Wiener pushes the logic of body- and behaviour-as-feedback further still in *Cybernetics* when he extrapolates, naturally, to his cybernetic model of the Lockean brain, a brain of contiguity and Gestalt, in which: "[…] group-scanning assembly is well adapted to form the sort of permanent sub-assembly of the brain corresponding to the adders or multipliers of the numerical computing machine"—a statement quickly followed by the suggested emergence of a new field of psychopathology based on the very plain assumption that "the brain and the computing machine have much in common" (Wiener, 1961, p. 141, 144). Wiener does make the concession that, due to its unique type of memory, "the brain, under normal circumstances, is not the complete analogue of the computing machine but rather the analogue of a single run of such a machine" (121). But this minor leeway does not diminish the overall assertion of the Wienerian brain model.

This particular reimagining of the human brain as a system—which arrives after rigorous mathematical juxtapositions (only hinted at above) between the double-feedback at play when engine valves inform the rudder of a ship, and the "postural feedbacks" that misfire when a person with Parkinsonism attempts to grasp a glass of water—makes many convincing yet

startling claims about the innate biological qualities of human beings and human minds (Wiener, 1948, p. 107-108). The occult hand of this brain-body schematic reaches still into our current decade, finding a recent apogee in renowned British neuroscientist Karl Friston's unifying brain theory that accounts, or so his research suggests, for all of human action and cognition in terms of neurological anticipation and correction (in a statistical sense) (Friston, 2010; Friston et al., 1994; Ashburner & Friston, 2000).

This entire cybernetic enterprise, as it pertains to brains, is illustrated very creatively in American writer Joseph McElroy's 1987 novel *Plus,* in which a brain floating in space attempts to make sense of itself:

> "He had no choice but to go on to understand what was going on. No choice he thought but to be centered and to see out from the brain hub, but then in from the body bonds; see meanwhile from the rounds of tendril bendings up out of cells near an open cleft to those message rounds pressed small in the bulb-bun of branchings at the rear of the brain, to (then) the fine turn of a limb tip finding a nearby limb to join or a bulkhead shine to brush. He thought in the pieces—he did not know how except that" (McElroy, 1987, p. 118).

The awareness, at once sensorial and cerebral, of the novel's protagonist—each cell, each phantom limb, each firing neuron—is feedback dependent. The novel is a compendium of extraordinarily lengthy, and at times absurd and self-defeating negative feedbacks or impulses. But it also contains something that Wiener's project avoids. Imp Plus *thinks* and tries to understand his brain from within only his brain; this is a telling fissure.

The advertent deficit in Wiener's schema (as in Friston's much later), as any casual student of continental or analytic philosophy might notice, is its neglect for the tradition sometimes known as "philosophy of mind". Despite flirting with the topic of Bergsonian versus

Newtonian time at the outset of his text, Wiener removes considerations of "mind" entirely from his final analysis (thus benefitting the singularity of his work), focusing instead of the human being as an *animal*. And, like the title of *Cybernetics: Or, Control and Communication in the Animal and the Machine* (1948) indicates, an animal that holds internal faculties generally analogous to those of a machine. But for brain-possessing humans, when faced with the question concerning the smartphone, this does not suffice. We must instead consider the possibilities afforded by a "weak determinism" reading of Wiener's brain.

Before addressing this cybernetic deficit and stanching the flow of hard neurobiology into this thesis by erecting Deleuzian contravallations, it behooves us to follow Wiener's brain-schematic across the decades into our present situation and present technology. We must ask, from an input-output, negative-feedback paradigm, what has a smartphone been shown to do to a brain?

What Can a Smartphone Do to a Brain?

Several recent studies demonstrate a causal relationship between smartphone usage (especially excessive usage, the definition of which varies), inhibited communicativeness, anxiety, and loneliness (Gao et al., 2016; Jiang et al., 2018; Kim, 2017). Further studies go so far as to state that the mere appearance of smartphones in proximity to young and adolescent users is enough to put them in a state of agitated alertness, and moderately impinge on cognitive control and socioemotional functioning (Johannes et al, 2018). Excessive smartphone use has also been found to impair facial recognition in social encounters among regular users (Chun et al., 2017).

In addition to this tally of temporary emotional maladjustment, loneliness[4] and agitated alertness, there are studies that reveal a phenomenon broadly labelled as smartphone "addiction". Criteria such as "phantom vibration and ringing" were essential for classifying addictive smartphone use for one 2014 study (Lin et al., 2014, p. 2; Mahapatra, 2019); a subsequent study by the same team of researchers refined the addiction criteria into four broad categories traditionally shared with internet addiction, namely: "compulsive behaviours, tolerance, withdrawal, and functional impairment" (Lin et al., 2014, p. 2-3). In this second study by Lin et al., his team of researchers confirmed that the psychobiological model of "low inhibitory control from anterior cingulate cortex, over the strong dopaminergic bursts from striatum" is prominent among regular smartphone users, and that this indicates a direct parallel to "substance related and addictive disorders"—a traditional example of this kind of behavioural disorder being compulsive gambling (Lin et al., 2016, p. 2, 8). Not only does smartphone addiction have "similar psychopathology with the traditional substance use disorders", but smartphones themselves provide "pathways to addiction on several different levels" due to their aforementioned ubiquity, our reliance on their functionality, and lastly smartphone applications with UI designed to "prolong their usage" and increase the number of events ("taps, scrolling and typing") that take place within them (Lin et al., 2016, p. 7; Noë, 2019, p. 56, 61).

Less thoroughly plumbed, though equally revealing, is research analyzing photic brainwave entrainment (physiological brainwave responses to stimuli from LEDs, like those used in many smartphone screens) (Knowles, 2014). The possible effects of photic brainwave

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[4] Loneliness that is an antecedent to smartphone addiction to begin with, according to Mahapatra's study "Smartphone addiction and associated consequences: role of loneliness and self-regulation", thus symptomatically perpetuating, if loneliness-spurred smartphone use also *causes* an eventual effect of loneliness, a cycle of addiction (Mahapatra, 2019, p. 836).

entrainment are visible in studies demonstrating how smartphone use can override or displace the natural entrainment of the "circadian timing system" biologically laden within us (Chinoy et al., 2018, p. 12).

This is all to say that there is an undeniable link, in terms of the intensity of cognitive effects, between smartphones themselves (manifesting certain human-computer interaction design principles) and the brains of smartphone users. Bernard Stiegler, continuing a Foucauldian trajectory, coined a fitting term for the affective forces comprising this unidirectional link: "neuropower" (Stiegler, 2013; Sampson, 2017, p. 174). Recently this neuropower has grown so rapidly and strongly that it has even prompted speculation about the advent of "cognitive technology" (to which smartphones are a precursor), a juncture where intensified brain-computer interfacing opens the possibility of "brain-hacking" (Ienca, 2018, p. 1-14; Ienca & Haselager, 2016, p. 117-129; Ienca et al., 2018). The type of neurological and psychological findings listed here reinforce a conception of the brain as part of the human animal in a very Wienerian sense: the various disorders and harmful effects of smartphones are posited as being caused by the alternation or maladjustment of natural feedback systems within the human brain and body. This principle of feedback *can* be retained, I will argue—and it is essential that we do retain it going forward—without entirely subscribing to cybernetic or post-cybernetic conceptions of the human brain that underpin much of modern neuroscience.

Antipodal Unities: Wedding Wiener and Simondon

While this schema is an appropriate basis for understanding the feedback loops occurring between smartphones and smartphone users, it has shortcomings beyond its obvious application in the fields of HCI (human-computer interaction), software engineering, or perhaps neuropharmacology. What is evinced by the symptoms of regular smartphone users is that

interferences and breakdowns continually occur between the user and their device. This is because the smartphone is a site where artificial and non-artificial worlds meet. And the object of the smartphone, by affecting the organic world of the brain, agitates, deters, compels, and generally alters with varying intensity the conscious states of smartphone users. Sitting at the other end of the cenacle of theorists here gathered, and antithetical to the structured channels of feedback that constitute a cybernetic model of the brain, we find Gilbert Simondon, and his peculiar phenomenology that would no doubt elicit defiant guffaws from poststructuralists and neuroscientists alike.

Particularly in his essay "On the Mode of Existence of Technical Objects", Simondon, in comparing the ethics of technicity and religiosity, notes their similar tendency (although incipient in religiosity) to promote a mode of being in which "the individual is always understood to be less than unity" (Simondon, 2011, p. 419). Simondon is there nudging against his quasi-Hegelian notion of individuation in which a permanent state of *becoming* pervades lived experience, as the "pre-individual" tumbles through a never-ending (to use Elizabeth Grosz's phrase) "chaotic cohesion" until the moment of death (Grosz, 2007, p. 297). This unique formulation of the individual entity which emerged with Simondon in the mid-20th century is totally at odds with the mechanical, teleological, diagrammatic effort put forth by Wiener's cybernetic project at that same time. To emphasize this further, we can point out how Wiener composts von Neumann's sub-set theory to arrive at an illustrative notion of "phase average" that is totally at odds with the notion of "phase" put forth by Simondon in his essay on technicity, which, although inspired by physics, does not define mechanisms of proprioception as Wiener's phases do, but instead posits the basis for a purposely non-dialectic "unique mode of being in the

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world" (Wiener, 1948, p. 68; Simondon, 2011, p. 407-408). The two theorists, Wiener and Simondon, are very much antipodes.

However, the distance between these thinkers (Wiener and Simondon) is precisely enough to form—and catalyze through the persona of Gilles Deleuze, whose terminology I shall now use—a "disjunctive synthesis" resulting in a philosophy of brain that is as loyal to Wiener's core concept of feedback as it is to Simondon's phenomenology, and as accommodating to the structured disseminations of neurobiology that Frazzetto and Anker call "neuroculture" as it is to more hermeneutic approaches of understanding the brain's role in our everyday being (Deleuze et al., 2009, p. 17, 39; Frazzetto & Anker, 2009, p. 815). What exactly does this new model of the brain look like?

Deleuzian "Brain" in *What is Philosophy?*

It has always been troubling to hear Deleuze utter the word "brain" instead of "mind" in the final chapter of *What Is Philosophy?*. Partly because such a re-centering suggests a (for the continental tradition to which he belonged) sacrilegious allegiance to the scientist, and partly because his use of the term "brain" appears to signify a reification fallacy. After finishing the culminating chapter ("From Chaos to the Brain") in *What Is Philosophy?* however, one sees that Deleuze has in fact inverted the conflicts plaguing philosophy of mind—which, in its long history sees eager combatants, as in the nearly whimsical case of Bishop Berkeley's Irish immaterialism, strive for pyrrhic victory—by acceding to neurobiological observation and terminology. Let us be clear: Deleuze forfeits ground to the neuroscientist only in order to reconceptualize and reconfigure the neurobiological brain, basically through symbolism and metaphor. He bends their conglomeration of signifiers into the shape of an umbrella, and in this

appropriation undermines the purely representational aspects of science that coat its final reports, opening the door for what we may call a "critical neurocentrism".

The Deleuzian brain is a "junction"—and not a "unity"—of three intersecting planes, three *Chaoids*, or daughters of chaos, as he so lovingly names them (Deleuze, 1994, p. 208). The three planes—located in the brain—cut across chaos and record on their surfaces what they encounter: science its variables; art its sensations; philosophy its variations as concepts (Deleuze, 1994, p. 208-209). Deleuze feigns explaining this recording process as contingent on the phenomenological principle that "thought, even in the form it actively assumes in science, does not depend upon a brain made up of organic connections and integrations" but rather our interactions with the world (Deleuze, 1994, p. 202-203, 209). It is in this sense that he reminds us of the phenomenological supposition: "Man thinks, not the brain"—and then emphatically dismisses this as mere *Urdoxa* ("original opinion"), swivelling instead to the position: "It is the brain that thinks and not man, the latter being only a cerebral crystallization" (Deleuze, 1994, p. 209-210). He speaks of the man as "absent from, but completely within" the brain, just as man is absent from yet completely within Cezanne's engrossing landscapes—a formulation that flouts both hermeneutic and phenomenological notions of mind (Deleuze, 1994, p. 210). Here again we can look back to the musings of McElroy's floating brain, this time concerning, with comical homophony, an identical and rather conspicuous absence: "Impulses piled up in the head. Imp Plus had no skull" (McElroy, 1987, p. 5).

What Does "Brain" Mean Anyway?

The interesting aspect of this nearly tautological "brain that thinks and not man" interjection is that the Deleuzian brain now becomes divided into two components: the objectified (or neurological), which holds mental objects, and the non-objectified, which holds

the aspects of philosophy, art, and science, and "under which the brain becomes subject, Thought-brain" (Deleuze, 1994, p. 209, 210). The contents comprising this second category, the "vital ideas", are thus not neuronally bound, and if ever they are materially realized, are temporarily hosted "in the deepest of the synaptic fissures, in the hiatuses, intervals, and meantimes of a nonobjectifiable brain, in a place where to go in search of them will be to create" (Deleuze, 1994, p. 209). The Deleuzo-Guattarian notion in *Anti-Oedipus* that breakdowns ("breaks in the process") are productive, which originates from Marx's division of product and production ("the machine transmits value to the product, but only the value that the machine itself loses as it wears out") is reflected in this insistence of profoundly productive hiatuses, intervals, and meantimes[5] (Deleuze and Guattari, 1972, p. 42, 31). The Thought-brain is therefore also *searching* (for these vital ideas, and more quotidian thoughts too) and thus operates above its neurochemical limitations in that it is not exhausted by their train-tracked wirings, yet is still *influenced*, even at the deepest levels of artistic, scientific, and philosophical cognition by something resembling Wienerian feedback loops. These feedback loops provide inputs *not* in the phenomenalist and essentialist form of Husserl's intentionality, but by what we may loosely term environmental confrontations, internal and external collisions, or *interferences* in the field of possibilities that the nonobjectifiable brains roams, during which, in the brain, "[…] what comes before has not yet disappeared when what follows appears" (Deleuze, 1994, p. 211).

In sum, the Deleuzian brain is not secretly a "brain behind the brain", but rather, as Deleuze says, "the brain is the *mind* itself", it *is* the subject, the Whiteheadian "superject" (Deleuze, 1994, p. 210-211). This means that despite the apparent endorsement of its classical

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[5] Deleuze almost seems to suggest a dialectically productive synaptic disunity within the brain.

cerebral abode, we know that the Deleuzian Thought-brain is "not the same brain as the brain of connections and secondary integrations", because it is as nonobjectifiable as it is objectifiable (Deleuze, 1994, p. 211). This entire view is best captured in the neologism "brain-subject" (p. 211). As Plotnitsky writes in his neuroscientific interpretation of Deleuze and Guattari's *What is Philosophy?* Deleuze is theorizing a brain, neither dogmatically scientific nor traditionally phenomenalistic, that "[…] creates, first, a Deleuzean [sic] phenomenal world and (phenomenal) ontology, the world of schizophrenic or rhizomatic possible movements, lines of flight, territorializations and deterritorializations" (Plotnitsky, 2010, p. 273-274). The Deleuzian art-science-philosophy brain (the brain-subject), while not in competition with Wiener for a "fixed alternative model of the brain or nervous system", nor competing with Simondon for phasal explanation of individuation, successfully imagines a neuro-phenomenology that is compatible with the monoamines dancing up our mesolimbic highway (Murphie, 2010, p. 293).

The New Deleuzian Brain-Subject

The spatial metaphors utilized throughout by Deleuze amount to both a reaffirmation and transfiguration of Hume's treatment of sensation in *An Enquiry Concerning Human Understanding* (1748)—viz. Deleuze asserts that the silent contemplation of the brain is in fact a "contraction" of sensation (Deleuze, 1994, p. 213-214). Deleuze repeats this verb almost rhythmically, pertaining to Humean categories of causality, association and integration, and even echoes Wiener by speaking of "oscillating molecules" that contribute to a deterministic chaos[6] of what may appropriately be called the chaos-brain (Deleuze, 1994, p. 216; Wiener, 1961, p. 108-110). The significance of this "contraction" is that contemplation—non-reactive, introspective,

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[6] This intentionally oxymoron best conveys the field of possibility that a chaos brain traverses in the moments leading up to a thought-forming contraction.

thought-forming *noesis*—is an activity, one that supervenes on neurological activity, but does not deterministically depend on it. The active neurological agitations leading up to a contraction form a field and not a path.

The Deleuzian brain-subject represents precisely the neuro-centric turn adequate for smartphone-brain interaction, as it maintains the consistency of cranial and somatic cybernetic feedback while integrating the Simondonian phenomenology of a non-totalized individual. This schema prompts us to look at smartphone addiction in a different manner, and perhaps under a different name. It is a multifaceted phenomenon, and the brains using these phones are not as rudimentary or analogous to the phones they are using after all.

From this Deleuzian starting point, we can follow an interesting (to use one of his idioms) line of flight to theories that passionately apply this *scanning-brain-subject* (an ugly tmesis, but for now must suffice) to contemporary neuroculture. One such theory is found in Tony D. Sampson's book *Assemblage Brain: Sense Making in Neuroculture* (2017), an exploration into Deleuzian brains acutely focused on modern technologies. A short summary of this investigation will bring us partway across the bridge to language that concludes this literature review.

Assemblage Brain or Fields of Interaction

The driving question of Sampson's *Assemblage Brain* is relatively simple: how do the variegated new technologies of today's neuroculture promote the existence of "an increasingly docile consumer-subject managed according to channeled attention, primed emotional engagement, and visceral affective stirrings" (Sampson, 2017, p. xi). In the procession from Neuropower to Neurolabour and finally to Control and Dystopia, Sampson sketches a preliminary Deleuzian "*brain-becoming-subject*" (or protosubjectivity)"—a sinuous variation of

the aforementioned *scanning-brain-subject*—that he later dubs the "assemblage brain" (Sampson, 2017, p. xiv-xv). Sampson uses, among other scientific sources, Ramachandran's analysis of mirror neurons and studies in neuropharmacology to analyze how neuro-capitalism colonizes this ecological, nonlocalized, somatically dispersed brain (Sampson, 2017, p. 14-15). Propelling this peculiar trajectory that ends in a speculative reconceptualization of the brain as an "assemblage" is both a radical Deleuzian methodology of creating deliberate interferences (between science, art, and philosophy; Huxley crossbreeding with neuroscience, or cinema with Spinoza, for example), and a literalization of a famous passage from *What Is Philosophy?* That begins: "it is reasonable to suppose also a faculty of feeling that coexists with embryonic tissues"—flowing shortly thereafter into: "Not every organism has a brain, and not all life is organic, but everywhere there are forces that constitute microbrains" (Deleuze, 1994, p. 212-213). This second hypothesis prompts Sampson's speculation about microbrains within the human body. One such brain, and especially important to this investigation, is the "thumb-brain" (Sampson, 2017, p. 141).

Citing a Wittgensteinian thought experiment involving "delocalized consciousness" in which an experimenter, looking at a real-time image of their brain, *thinks* their own brain by observing it, we begin to unfold further the question of where thought occurs (Sampson, 2017, p. 142). Sampson harnesses Deleuze's microbrain postulate to extend the brain-subject along the lines of Wittgenstein's thought experiment: "When a person thinks about writing, it is not the brain[7] in isolation that thinks, but thinking is rather the activity performed by the hand […] Thinking is not therefore limited to the brain but also is the paper on which we write, the mouth

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[7] Here referring to what Deleuze dismissively called in an earlier allusion "the brain behind the brain" (Deleuze, 1994, p. 210).

with which we speak, and the thumb by which we scroll" (Sampson, 2017, p. 142). It is through

this paradigm, established first by Bennett and Hacker in their 2003 tome *Philosophical*

Foundations of Neuroscience, that Sampson seeks to circumnavigate what they identified as the

mereological fallacy of traditional brain-centric cognition, where thought is entirely dependent

on afferent and efferent signals emitted to and from the top-down brain (Sampson, 2017, p. 142;

Bennett and Hacker, 2003). Sampson sublimely captures the essence of this mereological fallacy

and the importance of sensory environments (Wienerian external feedback) and microbrains by

stating that "the inside is nothing more than a fold of the outside" (Sampson, 2017, p. 116). John

Protevi offers another way, in his reading of Bruce Wexler's *Brain and Culture* (2006), to

interpret this microbrainiac "folding": "cognition is emergent not simply from multiple brain

systems, but from a differentiated system in which brain, body, and world are linked in

interactive loops" (Protevi, 2010, p. 173). The concept of interactivity gives us a term for the

mechanisms operating everywhere in this brain system.

Finally, we have arrived at a robust Deleuzian chaos-brain-subject. A brain of

neurological feedback loops that continually reshape the chaotic field that our brain of the head

(as well as brain of the hand, etc) wanders through, searching for thought, a search that briefly

culminates in intense contractions—from every monumental "*Ein jeder Engel ist schrecklich*" to

every minor "we forgot to buy pickles!" (Rilke, 2000, p. 4). But what does it mean for us if our

brain is this peculiarly phenomenal and non-totalized? It seems that this *scanning-assemblage-*

brain-subject, at once capable of extraordinary scientific insight, artistic vision, and

philosophical conception, is rather susceptible to the sensorial world. Suppose our cognition is

supervening *not* on the feedbacks of Vermeer's blue windows, or Bud Powell's trampling keys,

but instead on a field of sensorial, neurological feedbacks specifically engineered by political

charlatans or voracious marketers? Can this neurological "nudging", especially within ready-at-hand technology, constitute control of the Deleuzian variety? (Deleuze, 1992; Gandy & Nemorin, 2018).

Entrainment

Another crucial idea that Sampson brings to the fore is the notion of entrainment (Sampson, 2017, p. 91-94). Etymologically near "entrapment" or "entertainment", the word has, in the neurological domain, adjacent connotations. In a basic sense entrainment refers to nothing more than the process of training. In the context of smartphone users, so-called neurological entrainment refers to dopaminergic, serotonergic, or brainwave level conditioning, as exhibited in the smartphone addiction studies cited earlier (Sampson, 2017, p. 88-89). What makes the *scanning-assemblage-brain-subject* susceptible to a neurological entrainment is its reliance on phenomenal feedback. As Sampson adroitly points out, an entrained brain is the body-politic opposite of Gramsci's "unencumbered brain" which is free to think "nonconformist thoughts" (Sampson, 2017, p. 58). To explain this further, Sampson reflects on how the bodies of workers under Taylorism are affected by the vibrating machinery of their industrial workplace (Sampson, 2017, p. 57). The metal plates and industrial tools rhythmically synchronize the worker's body and mind with their work environment, according to the Gramscian model (Sampson, 2017). We may conclude, if only syllogistically, that neurological entrainment among smartphone users brings the worker and consumer into the "same circuit of control" (Sampson, 2017, p. 46).

Behavioural Control

Citing Burroughs, Sampson argues that "complete control is no control at all" (Sampson, 2017, p. 83). This is because control, if total, is mere dictation. As Deleuze illustrates in his

famous essay "Postscript on the Societies of Control", "Types of machines are easily matched with each type of society" and always "express those social forms capable of generating them and using them (Deleuze, 1992, p. 6). In our time, we live under "capitalism of higher order production" that serves the new "soul" of the corporation; that soul, says Deleuze, is *marketing* (Deleuze, 1992, p. 6). It is under this sky-blue sheet of higher order production that the biopolitical discipline of ages past are replaced with something "short term and of rapid rates of turnover, but also continuous and without limit" (Deleuze, 1992, p. 6). This replacement strives for the same social control of prior biopolitical regimes (still non-dictatorially), but with the techniques of a computerized society, a smartphone society. Sampson rightly interprets this to mean that control "needs to capture and escape the potential of what passes it by. It is never fixed. It is at its most creative when deterritorialized" (Sampson, 2017, p. 85). In accordance with the smartphone addiction studies cited earlier, smartphones exhibit an "anticipatory rather than consummatory mode of chemical control" through the notifications, photic and haptic feedback, and the neurological entrainment that these feedbacks form in users over time (Sampson, 2017, p. 96). This is a form of social control, though again, not what some might call "outright control" for such a phrase is oxymoronic; coercion, cooperation and persuasion are the methods at work. In Jenny Odell's book *How to Do Nothing: Resisting the Attention Economy* (2018), she summarizes the most common "persuasive design" feedbacks found in social media apps and most ICTs (designs conceived of by, and taught to students in, Human-Computer Interaction departments at universities) as: notification badges (to "arouse" curiosity); red colourization ("indicates urgency"), numerical component (makes notifications feel like a quickly eliminable "to-do list"); irregularly persistent notifications (intermittent timing maintains interest); and finally, contextualization so that whatever notification appears seems relevant to

the user (Odell, 2018, p. 114-115; Vivrekar, 2018). With all these digital ornaments in mind, it would be wise to remember that it was Pavlov's bell, not a handful of dog food, that triggered his canines' salivation; they were entrained.

I would like to stress that entrainment, according to our *scanning-assemblage-brain-subject* or chaos-brain schema is a kind of *cognitive interference*. I am using this term, interference, with an entirely different connotation than that of Sampson when he explains his Deleuzian methodology of non-philosophy, which involves unorthodox literary personas. By "interference" what I mean is an *imposition*, a reshaping or slanting of the cognitive field of possibilities by neurological feedback loops that add ingredients to that chaotic field, with the aim of almost gravitationally drawing (via neurophysiology) a subject into a repetitive process that over time constitutes entrainment. If the brain is truly an *assemblage*—in the case of smartphone use, of thumb-brains, eye-brains and "brain"-brains—then it is an embodied interference that pushes the smartphone user into neurological entrainment, sometimes strongly enough indeed to manifest addiction. The question is then: who benefits from thumb-eye-brain entrainment among smartphone users? Is there something desirable produced by or elicited from this orchestrated neuro-behaviour that can be, and perhaps is, exploited? The lacuna in this system, I contend, is language.

The Bridge to Language

In all these propaedeutic desiderata on the rapport between phones and brains, the primary ingredient—language—through which it is even possible to invent the categories "brain", "mind", "interference" in the first place, has been neglected. Language also allows us to label this inward sensation of consciousness and *consciousness-of* that predominates our experience of the world and certainly our experience as a brain and set of eyes and thumbs

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inputting language into a smartphone. Foregoing phenomenological examinations of awareness and extensionality, I suggest we look where seldom others have: the significant role of inputted language in the operation of smartphones, and thus the implication of unique mind-language (chaos-brain and language) relations at the site of the smartphone.

A device (like most ICTs) that only functions meaningfully by processing and transmitting language is *de facto* a hub of linguistic activity. But before investigating the extent of language capture at the site of the smartphone, we must know why language is itself significant to human beings, to the entrained smartphone brain, and what kinds of value it holds for marketers and data brokers.

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Brains and Language: From Bicameral Mind to Cognitive-Linguistic Potentiality

In order to gauge the significance of the linguistic divestment that occurs through language data capture we must understand at a basic anthropogenic level, and a basic political level, the relation between the brain and language.

The Origin of Consciousness in the Breakdown of the Bicameral Mind

In 1976, Julian Jaynes, a psychologist at Princeton University, wrote a book bearing the same title as the above subheading (which I will hereafter truncate to "OoC"). In that ambitious volume he attempts to show how human consciousness is a primarily *linguistic*, learned and ongoing event, spurred into existence a mere 3,000 years ago from the breakdown of the "bicameral" or two-chambered brain (Jaynes, 1976). The text cites archaeological, anthropological, historical and linguistic evidence from Mesopotamia to Ancient Greece, giving

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detailed accounts of the cataclysmic events that triggered the slide from a hallucinatory, downright schizophrenic non-consciousness, where decisive behaviour (but not *reactive* behaviour; think of hesitation between two immediate choices, not scratching an itch) would be dictated from the brain's right, commanding hemisphere to its left, listening hemisphere, using the now "vestigial functioning of the right Wernicke's area in a way similar to the voices of gods" (Jaynes, 1976, p. 106-109). This astonishing hypothesis of the bicameral mode of being is most evident, according to Jaynes, in the great Homeric texts, which, if read as a somewhat accurate historical representation of how people behaved at the time (which Jaynes encourages for a number of reasons) challenge us to consider if, for instance, Achilles' obedience to the divine communicative interjections of Gods is merely a "poetic device" invented by the chanting *aoidoi* storytellers, or instead evidence of how people at the time really experienced action, behaviour and decision-making as such (Jaynes, 1976, p. 78).

This theory is supported by citing evidence from commissurotomies and EEG scans that show the sharpness of hemispheric distinction in the human brain when the faculty of *speech* is under observation (Jaynes, 1976, p. 111-119). The speech studies cited also posit a neurologically sound mechanism for Jaynes' God-brain dictation hypothesis[8], all while contextualizing the ubiquity of God-dictation rituals, as well as the exaggerated mouths and ears on statuettes and potteries originating almost contemporaneously in the Hacilar, Hittite, Olmec, Maya and panoply Andean civilizations (Jaynes, 1976, p. 150-165). It also would account,

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[8] Jaynes explains the power of this godly right-to-left hallucinated voice: "…volition came as a voice that was in the nature of a neurological command, in which the command and the action were not separated, in which to hear was to obey" (Jaynes, 1976, p. 99).

Jaynes suggests, for the striking shift from Mesopotamian God-kings to ancient Greece's "intellectual consciousness" (Jaynes, 1976, p. 255).

In Jaynes' final summation, where we are now—with consciousnesses, or a sense of inwardness—is due to: the "weakening of the auditory by the advent of writing"; the "inherent fragility of hallucinatory control"; the "unworkableness of gods in the chaos of historical upheaval"; the explanation of "internal cause" for difference in the behaviour of others; the "acquisition of narratization from epics"; the "survival value of deceit"; and finally the silent forces of natural selection slowly pulsing through these newly literate societies (Jaynes, 1976, p. 221). I have abridged the trajectory of Jaynes' book poorly because the erudition and scholarship spread between its pages defies compression. But at the end of OoC's grand theorizing it may be enough to simply restate Jaynes' core thesis: "consciousness comes after language" (p. 66).

What is meant by "consciousness" at all, by anyone, is a devilish discourse to entertain let alone partake in. Jaynes, however, proceeding from his above psycho-anthropological-literary account, pries open the discussion with this illuminating explanation:

> "Consciousness is a much smaller part of our mental life than we are conscious of, because we cannot be conscious of what we are not conscious of. How simple this is to say; how difficult to appreciate! It is like asking a flashlight in a dark room to search around for something that does not have any light shining upon it" (Jaynes, 1976, p. 23).

Again, to condense many chapters, it must be sufficient to say that through a unique dualism that utilizes a "metaphier" and "metaphrad", "paraphier" and "paraphrad" system, Jaynes focuses his notion of consciousness on mind-space, or the "spatialization" of inwardness that pervades most if not all descriptions and experiences of consciousness (Jaynes, 1976, p. 59).

The process of spatialization, and the metaphoric motor within the brain (which puts new experiences always in terms of things already known) brings us to the "metaphor 'me'" or the "analog I"—the part of our inwardness that allows us to imagine ahead of time, say, taking the route across the bridge versus the route behind the police station to get to university campus, and cogitate upon the benefits or drawbacks of each route in third- and first-person perspective, visualizing ourselves walking each path before ever physically choosing one of them with our feet (Jaynes, 1976, p. 63). This verbile imagination permits a narrativization of our future actions—an evolutionary step forward that can only come from a "metaphor-generated model of the world" (Jaynes, 1976, p. 66).

In sum, Jaynes argues that language and consciousness are the older and younger siblings of our mentation, respectively. But what does this closeness between the two mean for our Deleuzian philosophy of brain, and the use of our language in the world of smartphones?

Cognitive Irrigation: Consciousness, Brain, Language

Although on the surface they seem ambiguously related, the Deleuzian brain model we've been discussing is not repugnant to the linguistic consciousness theorized by Jaynesian psychology. Looking at the relationship between Deleuze and language clarifies this.

Jean-Jacques Lecercle in *Deleuze and Language* formulates the brain's interaction with chaos as such: "the chaos from which everything starts is made up of potentials, from which the singularities that make up the world, or thought, or language, are generated" (Lecercle, 2002, p. 66). We find in Joseph McElroy's protagonist Imp Plus, a brain floating in space who ruminates ceaselessly on words and brain-feelings, an interjection bearing strikingly similar sentiments to Lecercle's cognitive Deleuze: "—when let go, like birds, thoughts, micropumps primed by future

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chance, infinitesimal maps seeking a place to be of", says Imp Plus of his thoughts (McElroy, 1987, p. 208). The Deleuzian chaos-brain also wields language like this primed mapmaker, roving and sketching according to an apposite internal legend the surrounding terrain. Lecercle, trying to make sense of Deleuze's anti-linguistics stance, arrives at a similar conclusion—that Deleuze is a cartographer, and so advocates a cartographic strategy for understanding language: "mapping treats language as a plane, of immanence and consistency; it respects the heterogeneity and diversity of language, it does not force its lines of flight into a hierarchy of channels" (Lecercle, 2002, p. 71). According to Deleuze then, language is a mode of contracting the chaos ingested by the brain's sensing assemblage into *thought*. This notion is in keeping with one famous semiotician, Charles Sanders Peirce, and his post-Fregean triangle of the sign which implicitly relies on the refluent dictum (as cited in Habermas' *Postmetaphysical Thinking: Philosophical Essays*) that "every thought is an unuttered word" (Habermas, 1992, p. 93). It is in this fashion that Jaynes and Deleuze accommodate one another: language is inessive, it habituates thoughts for our conscious mind.

If we take Jaynes' language-preceding-consciousness hypothesis seriously, and so too the cartographic role of language in cognition, we can see not only a path of escape from the types of control latent in smartphone technologies, but also the inherent value of language in understanding and promoting certain neurological, and in fact neuro-linguistic entrainments. And of course we must remember that consciousness for Jaynes has only recently developed alongside natural-historical languages, yes, but its development is still ongoing, meaning that developments of *language*—its modulations, uses, how it is harnessed, how it is fed back to us—determine to no small extent the shifting qualities of our current consciousness, and the consciousnesses yet to come.

It is worth remembering that the "mind-brain" (a Chomskyan hyphenate) that we're addressing, and the possible neuro-linguistic entrainments therein also involve the *scanning-assemblage-brain-subject* in all its aforementioned intricacies (Lecercle, 2002, p. 67). The cephalous brain and the thumb brain would both be, under this lens, open to neuro-linguistic entrainment at the site of the smartphone. We can think of this as a hijacking of their map-making abilities.

The usefulness of entraining language users is for now still somewhat ambiguous. Before embarking on an exploration of the surveillance industry that incubates this practice, and drawing up a fuller understanding of the unnatural role of language as a commodity, we must limn the nature of ordinary language, of the phatic speech and demotic scribblings that we unfailingly produce and encounter.

Language Itself

Deleuze differs from Jaynes slightly in that he considers the relation between *langue* and *parole* to be rhizomatic, without "ontological hierarchy" (Lecercle, 2002, p. 67). This is a fittingly horizontal conceptualization, though it introduces a familiar dichotomization of abstract language as-such on the one hand, and language as spoken by an individual on the other. But this convenient dichotomy does not hold come what may: according to post-Operaist thinkers like Paolo Virno, for example, it lacks sufficient materiality (Ratajczak, 2018).

Language as Praxis

In another text by Lecercle, entitled *A Marxist Philosophy of Language* (2006), he perpends the biotic omission that Marxist approaches to language (and perhaps approaches in

general) had at the time largely ignored: the body[9]. As he explains, "language involves materialism in the strictest sense in that it involves speaking bodies; and it involves a broader materialism, with which Marxists are familiar—that of institutions and apparatuses, in that they produce discourses and speech acts" (Lecercle, 2006, p. 184-185). Organisations and apparatuses—the "ontological mix", as Lecercle puts it, of bodies, institutions, and texts that form Deleuze and Guattari's "collective assemblage of enunciation" as well as Althusser's "chain of interpellation"—will be discussed after, in the context of language industry (Lecercle, 2006, p. 184-185). But for now, let us focus on that incipient materiality at the event of language: the biological body. As Paolo Virno explains in *When The Word Becomes Flesh: Language and Human Nature* (2015), language exists in the "biological *dynamis*", or the silence-breaking "*faculté de langage*" (ability to speak) that is neither *langue* nor *parole* (Virno, p. 46). This bare capacity to speak exists in its purest and yet most beguiling formulation in what Virno calls the "absolute performative", or the nearly magical, short-circuiting declaration "I speak", which, as it races up the larynx and off the tongue and through the lips *performs what it speaks by saying itself* (p. 49).

For Virno, this points with an unwavering finger to heart of language. Virno pushes his point more forcefully when he declares the following: "[…] linguistic activity, considered as a whole, is neither production (*poiesis*) nor cognition (*episteme*), but action (*praxis*)" (Virno, 2015, p. 24). Though initially bizarre sounding, this is a well-reasoned categorization. Following a Wittgensteinian program largely influenced by the "second" Wittgenstein, Virno stoutly denies that language is defined by its final product (that is, its effects, its end goals; the perfection of an

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[9] There are some notable exceptions: both Bakhtinian ontogenetic linguistics and Voloshinov's Marxist philosophy of language deal heavily with the physical body (Cresswell & Teucher, 2011; Voloshinov et al., 1973).

enunciation is not pragmatically contingent like a recipe for carrot cake), *nor* is language, he asserts, defined by knowledge transfer (Virno asks us to consider the epistemic value of "damn it", "help me" or "Oh my God") (Virno, 2015, p. 25, 28).

From this assertion one may state plainly that the prevailing ontological condition (or ontic property) of language is that it is an *action*. This theory is nominally and for our purposes functionally in accordance with Deleuze's *contracting* brain and mapping *parole*, even if Virno steers very clear of the rhizomatic nomenclature and phenomenological brine that Deleuze's brain swims in.

To summarize: for Virno, the linguistic singularity that is the "I speak" speech act confirms at once the physiological, bodily basis of language (reconfirming its earlier designation as *praxis*), and later, through the figure of De Martino, explains the ways in which language makes and remakes, very much in the sense implied by Jaynes, our very self-consciousness (Virno, 2015, p. 49-51, 91). Thus, the road ahead briefly bifurcates in two interesting ways, one brutally Marxist (concerning language and the body), and the other influenced by more hermeneutic philosophies of language that emerged after thinkers like Gadamer, only to have both paths converge in the end.

Language and Labour: Materiality and Immateriality

In the 21st century, the jump from language to labour is no jump at all. Language, as *praxis*, is increasingly a component of what Canadian Marxist philosopher David McNally calls in *Bodies of Meaning* "the laboring [sic] body"—a body that he claims has been erased by much of poststructural linguistics (McNally, 2001, p. 230). As McNally explains in the opening pages of his book:

"One overarching argument runs through these pages: that postmodernist

theory, whether it calls itself post-structuralism, deconstruction or post-

Marxism, is constituted by a radical attempt to banish the real human body –

the sensate, biocultural, laboring body – from the sphere of language and

social life. As a result, I argue, these outlooks reproduce a central feature of

commodified society: the abstraction of social products and practices from

the laboring bodies that generate them […]" (McNally, 2001, p. 1, 4).

This attitude towards the labouring body has family ties with the Italian post-Operaist or post-*Operaismo* school. As noted in Ratajczak's (2018) summary of the post-*Operaismo* school's development, many theorists, including Antonio Negri, Maurizio Lazzarato, Christian Marazzi, Paolo Virno, and Matteo Pasquinelli have tried to understand language from a non-abstracted place, even as a "means of production" in its own right, rather than mere morphology and semiotics (p. 119). Moving away from straightforward workerism (and hence the "post-" in post-*Operaismo*), they begin by acknowledging that social praxis lies in "the irreducible split between pre-existing and pre-individual historical languages (semiotics) and actually existing individual utterances (semantics)" (Ratajczak, 2018, p. 119-120). In other words, language has a pure potentiality that is present in every enunciation because of the possibility of producing new utterances (Ratajczak, 2018). This not only gives language a special anthropogenic property, as we will soon discuss, but outlines the special relationship it has with labour-power (Ratajczak, 2018).

As early as 1999, communication theorists such as Philip Graham noticed that the impending informational knowledge-economy "is concerned with the exchange of more and less valuable forms of knowledge [which] presupposes more and less valuable forms of language"

(Graham, 1999, p. 487). This view of language as a "means of production" *and* means of exchange (it is the means of exchange for "valued categories of thought") shifted, or began to shift, when information communication technologies (ICTs) from the workplace made their way into our homes, or in the case of smartphones, into our pockets (Graham, 1999, p. 482-83; 484). Yet Graham emphasizes, in more sociological terms, the same point concerning language as the post-*Operaismo* thinkers do, namely that: "in language […] people render their environments socially meaningful" (Graham, 1999, p. 485). When considering Google search queries[10], for example, it is worth considering the "socially significant, socially exchangeable meaning" of the questioning person (Graham, 1999, p. 485-86). With this socially significant exchangeable meaning in mind, Graham reminds us of a prognostication from the Frankfurt school: "Hypercapitalism is the evolutionary point in the trajectory of exchange societies at which 'thought becomes a commodity', and language the means of promoting that commodity' (Horkheimer & Adorno, 1944/1998, p. xi-xii; Graham, 1999, p. 487-87). It is at this point that what begins for Graham as a discussion of knowledge economies comprised of "expert dialects" belonging to various economic domains shifts into a discussion of autopoiesis and the poaching or economizing of language, which takes the specialization of workplace jargon to new frontiers by making words themselves not just the exchangers of value, but the valued resource themselves (Graham, p. 489). But where Graham sees language economies fixed on the axes of knowledge (*episteme*) and production (*poiesis*), Virno, as we know, stoutly defends, with much more philosophical rigour, the performative *praxis* driving all linguistic acts. This is not to say that Graham is outright false, or that informational knowledge economies don't rely on language.

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[10] Google is a pinnacle of untrammeled language capitalism, a domain it practically, and probably inadvertently, invented.

I am suggesting that the secondary appraisal and *assimilation* of language into fungible components is distinct from appropriating language as such (as *praxis*) to serve the ends of *episteme* and *poiesis* for profit.

It is in the alternatively acerbic and playful figure of Ludwig Wittgenstein that the sociological-communications approach to language as a commodity (in the knowledge-production sense) represented by Graham overlaps with the post-*Operaismo* school. This is because both approaches to language commodification root their valuation of language in the primacy granted to it by the Wittgensteinianism "the limits of my language means the limits of my world"—even if the *limitations* invoked by that sentence and its primacy would never again be such as they were after the publication of his *Philosophical Investigations* (Wittgenstein, 1921/1999, prop. 5.6; Graham, 1999, 487-89). For the post-Operaists[11], however, the atheistic sacredness of language that that statement implies remains, and so too does the idea that "we belong to language and act within it, but we ourselves are not language" (Ratajczak, 2018, p. 121). This is an important step in their eventual hypothesis that language has always been "the common that fuels the production of surplus value – first as a precondition of cooperation, and now also as a means of immaterial production" (Ratajczak, 2018, p. 121). Under this labour-centric paradigm, in which the language producer is also the labouring body, language a) determines something approximating the limits of our world, b) is *of* us but is *not-us*, and finally, c) is the capital-c Common between individuals. Under these criteria, as seen in the most previous quotation, slips in a term from Maurizio Lazzarato (1996)—"immaterial labour"—

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[11] Paolo Virno particularly, who tracks the passage between early-morning Wittgenstein and the Wittgenstein of later hours as a move from "sublime chatter to impeccable ascetism", where self-reference becomes first impossible and then utterly trivial (Virno & Mecchi, 2015, p. 248, 250).

which post-*Operaismo* figureheads Hardt and Negri sort into three varieties that are most simply stated as:

1. "'the incorporation of informationalized, communicative technologies' into industrial production";
2. "the manipulation of data, symbols, images and ideas";
3. "the production and manipulation of effects in communicational relations between people based on care relationships" (Ratajczak, 2018, p. 122).

These are the raw methods for making use of immaterial labour (which I argue the harvesting of language-acts constitutes). The way these methods absorb the linguistic commons into industrial production differs depending on our semiotic conception of the labouring body (here informed by Lecercle, McNally, and the post-*Operaismo* school) and differentiates them from the methods of traditional labour *only* by the absence of the chemical fruits of labour that we smell and touch before handing over, that is, by conventional materiality alone. Hence the almost ironic rhetorical twist in "immaterial labour". Musing over this materiality however opens the door to an uninvited gaggle of garrulous questions mostly concerning the "existence of digital objects"—a topic on which much is currently being written, but also one that is better suited for later discussion (Hui, 2016).

As we continue onward, let us not forget when, in the previous section, we expanded the linguistic act to the brain of thumbs, and to the whole Deleuzian contraption, inward consciousness and all, thus also introducing the possibility of labour in the fact that the cognitive-performative *praxis* of the linguistic being is de facto embodied. This Deleuzian slide interestingly eliminates the distinction, in the linguistic act, between *praxis* and thought.

Methods and Executions of Immaterial Labour

It is noteworthy that all three of Hardt and Negri's above mediations involve subsuming "the common" under capital—that is, language remains largely independent of capital, and yet is treated as part of what Monica Heller terms "linguistic resources" (Ratajczak, 2018; Heller, 2010, p.103). In sum, then, the mediation of language (which is world-determining, of-us, and part of the social Common) into systems of informationalized communication technologies, data collection and manipulation, or of generating effects within communicational relations, constitutes the subsuming of language into a game of exchange-value hitherto delimited to the workplaces of the end of the twentieth century. The transference of this process into leisure time not only poses ontological questions about labour, but also, as Lazzarato pointed out in his 1996 essay, and as Ratajczak rephrases, results in the "measurement of activities that were traditionally outside of value relations" (2018, p. 123). This process, referred to by post-Operaist thinkers as *financialization* explains how monetizing mere measurements (measurements of, say, word occurrence) is what typifies the "becoming-immaterial of work" (Ratajczak, 2018, p. 123).

The commodification of language, especially in the case of online search engines, inherently involves harnessing what once was a flippant, offhand, formally unproductive activity—asking a question—and, as we shall see, captures the information of its linguistic substrate to create "language put to work" (Ratajczak, 2018, p. 124). This idea is slightly different and far more sinister than that of language valued as jargonized expertise in the workplace, though this does still also occur, and is properly where the practice of language commodification began, as both Graham and the post-*Operaismo* school explicitly and tacitly acknowledge (Graham 1999; Ratajczak, 2018). In particular, it is worth noting the peculiar ways in which "'utterances made by financial actors' have an affect on the speculative value in

financial markets" (Ratajczak, 2018, p. 124). On a much higher scale than what I am directly

addressing in this paper, this means that:

> "Companies like Alphabet, Facebook, Amazon or LinkedIn transform the information
>
> they extract into value by creating communicational conventions on financial markets –
>
> the value of these companies (and hence the information they extract) is determined by
>
> the communicational actions of financial actors" (Ratajczak, 2018, p. 125).

But financial actors are no longer the most important actors included in the business

models of companies like Alphabet, Facebook, Amazon, or LinkedIn. The most important actors

are the workers: the language actors.

The Language Industry: A Hypercapitalist Mammoth Named Google

Nothing demonstrates this more powerfully than the sheer value of language in search

engine empires like Google. A now outdated figure should paint the picture clearly: already, in

2012, Google was making "about 140 million dollars per day, 5 million dollars per hour"—

which equates to, then, five-hundred thousand dollars every six minutes (Kaplan, 2014, p. 57).

The somewhat convoluted production of this enormous value rests on the validity of a very

simple premise: "Google acquires strong indications of users' interests by analyzing the words

they enter in Google's search engine" (Hyunjin & McAllister, 2011, p. 148). This spirals into an

ever-evolving auctioning system (which people have often attempted to gamify in what Kaplan

calls a "linguistic war") to fight for priority position when lucrative words like "flowers",

"hotels", "vacation", "love", "Picasso" or "Freud" are mentioned in a search (Kaplan, 2014, p.

58-59). Matching users to these words means that the entity in possession of word usage (and

thus user interest) possesses "linguistic capital" (Kaplan, 2014, p. 58). When users misspell a

word or phrase, the auto-completion feature intervenes to turn valueless mumbo-jumbo back into "a profitable economic resource" (Kaplan, 2014, p. 59). Indeed, as Zuboff points out in her 2015 "Big Other" article, Google's chief economist perceives no scrap of data too trivial; that is, everything inputted has potential value (Zuboff, 2015, p. 79). This process creates, according to Kaplan, an "Attention Economy" and "Expression Economy", the former distilling intentions from attentions, the latter transforming those intentions into expressions, enunciations, searches (Kaplan, 2014, p. 58-59). The basic premise then, indicated by Google's assumption that searches indicate interest, is that Google "sells its users' cognition" to data brokers and potential advertisers (Hyunjin & McAllister, 2011, p. 146). But is this really cognition? According to Virno, no, it is linguistic action, linguistic performance, human behaviour itself.

An understanding of the highly lucrative Google queries, which are generally representative of the kinds of *searching* that typify one side of the smartphone triangle (the other two sides being *communicating* and *capturing*), clarifies what language extraction amounts to: a harnessing not of some mental object or correlate that is indexed in a user's language, but a harnessing of their *linguistic activity* itself, which, though entangled with cognition as Deleuze has shown us, is not cognition distilled. It is by ensnaring lingual *praxis* that secondary by-products of *episteme* and *poiesis* are gleaned, reconstructed, sold.

As experimental philosopher Lani Watson explains succinctly in her essay "What is a Question" (2018), a query, which is ostensibly the desired input for Google's search engine (by users and by Google itself), can exist in many forms, some of them even non-linguistic, like when a person looks both ways before crossing a street. And among linguistic formulations, as anyone who has used Google knows quite well, questions need not take the interrogative form ("breakfast food near me"), nor have a single or even probable answer ("what is justice?") for a

string of words to count as a question *qua* question (Watson, 2018). The answer to Watson's titular query is revealed through her survey-rooted methodology (that is essential to much of experimental philosophy) as being: "an information seeking act" (Watson, 2018, p. 14). This well reasoned conclusion forces us to reconsider Googling, and moreover *searching* in general, as categorically an *action* in a very serious way. Moreover, I contend that it is not a coincidence that questioning (which helps us map our world) is for Watson reducible to action, just as enunciation for Virno is reducible to *praxis*, and linguistic acts for Deleuze are reducible to the contraction of a chaotic assemblage.

Labour *Qua* Labour

Following this new understanding of questioning (and language generally) as an action, a familiar post-Operaist handshake offers itself. We must now consider the significance of "commodifying actions and activities which have no measure outside of market relations" but which, for Google's gormandizing apparatus, always have implicit value and therefore supreme significance (Ratajczak, 2018, p. 125). This model, again, represents language capture and divestment generally through the example of its current height of power.

For the post-*Operaismo* school, the harnessing of our linguistic commons for financial gain de facto requires that contribution to that commons henceforth be a form of labour, all while the linguistic commons continues to function as the sole site of "the transindividual production of subjectivity"—a concept we will unpack shortly (Ratajczak, 2018, p. 124). The "value-capture" involved in the blatant language capture of Google searches transforms users' information seeking acts into a quanta with speculative market value—especially speculative because of the seasonal, sometimes externally determined fluctuations in value among individual words such as

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"snowboarding" or "gold" in Google's Adwords program (Ratajczak, 2018, p. 124; Kaplan, 2014, p. 59).

More fundamentally however, the commodification of the very human act of questioning the world through language represents labour becoming "coextensive with life" (Watson, 2018; Ratajczak, 2018, p. 125). Indeed, our "linguistic labour" represents the advent of a world where "forms of immaterial labour are indistinguishable from *forms of life*"—life here referring to the raw potentiality of humanity, as contained in the act of enunciation (Ratajczak, 2018, p. 125, 126). As Pasquinelli puts it, capital subsumes our "living information" by "turning it into dead information crystallized into machinery" (Pasquinelli, 2015, p. 55). This last point is of the utmost importance. Pasquinelli elaborates it by invoking Alan Turing and Friedrich Kittler when he says "the executability of digital code must not be confused with the performativity of human languages" (Pasquinelli, 2015, p. 61-62). In other words, our language, a morsel of our lived common, is deadened and financialized by Google, reduced to something solely executable, quantifiable, and fungible. The search bar is a gateway to Google's digital morgue, which is perhaps what grants Google its confidence when following through with Zuboff's third declaration of the "6 declarations of surveillance capitalism", namely the "claim of free raw material" taken from the human experience (Zuboff, 2019, p. 60).

Despite this elimination of performativity, something of us lives on in our words. As Rosamond explains in her analysis of a diaristic Gmail project, there is an "algorithmic interiority" created by the translation of personal queries (and in her study also email messages) into monetizable, associative keywords (Rosamond, 2015, p. 22). She points out that this process rather astutely gathers information about our health matters, anxieties, stresses, depressions and

loves—the emotional components of "behavioral surplus" extensively outlined by Zuboff in *The Age of Surveillance Capitalism* (Rosamond, 2015; Zuboff, 2019, p. 54). What this leaves us with is a sort of afterlife for our actions and words, a pulpy surplus squeezed out of our language that we deployed intending to find, understand, and learn, not to fuel a parasitic economy.

The Lingo-Economics of Surveillance Capitalism

Although the term "exploitation" appears severe, it accurately describes the lingo-economical arrangement between corporate entities such as Google and its human users (who are themselves more "producers" than users, and perhaps even see themselves as such). It is a tragic state of affairs when "Google knows far more about its populations than they know about themselves" (Zuboff, 2015, p. 83). In the grander post-Operaist view, the commodification of language is part of a historical process, just as imperialism and the welfare state were, and is aimed at regulating "the crisis of overproduction", but stumbles in this pursuit by reducing "the plurality of forms of life […] to market differences" and "lifestyle choices" (Ratajczak, 2018, p. 124, 127). The commodification of language represents a new form of immaterial labour that strikes at the heart of our individuation and social configurations by altering the existential qualities of the common that binds us. But it is not only the collective that is threatened by the deepening hole into which our language, by crude opportunism, has fallen. The individual, the subject, is dragged behind.

The Perennial Bloom of Subjectivity

I would like to return briefly to this idea of the linguistic "commons" that is so essential to the post-Operaist school—that is, the distinction between public and private usages of

language (*langue* and *parole*), and the idea of inter-subjectivity. The linguistic commons, and the "commons" more generally, seems to have an almost sacred primacy for post-Operaismo thinkers. This is in large part due to the fact that language is the direct product (and by-product) of our most meaningful social encounters. But this reverence for the commons also (in keeping with their Marxist roots) relates to certain inalienable dimensions of communal life. Language, in its largest sense, ought to be as free as the sunrise, as rainfall, as fresh breezes, as strolling or sprinting or idly reclining—it is something without which "the possibility of community" itself, as Blanchot might say, fails to materialize (Blanchot, 1983/88, p. 21).

It is also in this realm of the linguistic commons—of that which is literally communal, unowned—that we find confirmation of the "final thesis" in Lecercle's text on Marxism and language, namely that "the function of language is the production of subjects" (Lecercle, 2006, p. 198). The facticity of this statement leads to an entirely different assessment of what language surveillance, capture, and divestment imply.

This line of thought begins with Virno, who, after dancing with Wittgensteinian second-order sensualism and Augustinian exegesis, goes in search of an "unrepentant materialism" that takes seriously the possibility of linguistic reification (Virno, 2015, p. 134-135). In the vocabulary of Kant, this to him reads as: "in the process of reification we are not dealing with the phenomena represented through transcendental categories, but those corresponding to the very existence of transcendental categories founding all representation" (Virno, 2015, p. 136). Put very crudely, reification is the ability to affect the world as is, by either affirming a new existence or recognition of *res* (that is, forging or revealing a new relation of things to the always-already public world) (Virno, 2015, p. 135-136).

Virno goes on to distinguish that "reification only concerns the objectuality of thought, while fetishism replaces thought with an object" (Virno, 2015, p. 140). This means that language, as something both "perceptible and imperceptible" to the senses, reifies only the prepositional "among" that contours the Simondonian pre-individual consciousness, a consciousness that develops to no fixed or totalized end (Virno, 2015, p. 143). It is exactly *because* language reifies the "among" that the process of individuation occurs in "the no man's (and everyman's) land between the I and non-I" (Virno, 2015, p. 149). And this is what is meant by the formation of subjectivities. As Virno puts it, "The 'subject' transgresses the limits of the 'individual' because it contains a non-eliminable component, that is, a certain measure of undetermined pre-individual reality, unstable and yet full of potential" (p. 146). In order to hold this transformative potential, language must be trans-individual (not inter-individual), a structure that is a crucial predicate to the "self-conscious I"—a notion not dissimilar to Jaynes' previously mentioned "analog I" (Virno, 2015, p. 149; Jaynes, 1976, p. 63). The linguistic faculty that defines the becoming-subject of language (the pre-individual consciousness housed and fed by language) is summarized neatly by Virno as such:

> "Differing from a natural-historic language, (which is a system of eventual acts, and not a potential), the linguistic faculty does not exist separately from one or another contingent speaker. It is true that the entire species shares this faculty, but since it is a potentiality, it is only shared as far as each of its members assumes and incarnates it. Or rather: more than incarnating it individually, each member of the species becomes an individual thanks to this incarnation. The power to speak is the personal experience constituting each and every person (Virno, 2015, p. 65).

The post-*Operaismo* school as a whole concurs with this sentiment, noting that social life and subjectivity, best defined as our ability to "become subjects in relationship with others", rely entirely on language, hence the importance of its repeated designation as the "common" (Ratajczak, 2018, p. 126). However, by returning to Kant's first critique, Virno is asserting that the synthetic unity of all apperception ("the foundation of the whole transcendental system") and its culminating proposition "I think" (that of Descartes, even), upon which all else either depends or simply coincides, is "simply a text […] the basic syntactic juncture between a personal pronoun and a verb" (Virno, 2015, p. 158-159). Reframing "I speak", instead of "I think" as the foundation of self-consciousness raises the status of all speech-acts, written and phonetic (p. 159). We can see how in this re-situation language emerges as a vital component of both our interaction with the world (we may think again of Deleuze's mapping-language), as well as our blooming subjectivity. Returning to Virno's distinction of *objectuality* between reification and fetishism, this new foundation of thought at once empowers and exposes language: the transcendental, as Virno points out, now exists outside the body, "incarnated in transient linguistic acts" but so too, I will argue, in the text, the document of marks and signs that reifies once more this among-ness of language (Virno, 2015, p. 165). When such a reification is followed by capture and divestment of the reified, the process that forms the very substrate of the synthetic unity of experience is interfered with, replicated, and reshaped by the subsequent whims of those who profit from its crystallization and transference. This enables new cycles of commerce that give rise to fully-fledged hypercapitalist economies—Google's continuous upward flourishing exemplifies this. But how exactly is the subject reshaped through this process? What is different about the linguistically divested subject, besides their immaterial

labour? To answer this properly we must consider one last time the importance of language in how we interact with the world.

Dissipating Metanoia & Capturing Potential

The notion of literary *metanoia* is explored in Armen Avenessian and Anke Hennig's *Metanoia: A Speculative Ontology of Language, Thinking, and the Brain* (2018). The very possibility of metanoia—a change of mind in the most profound sense—is framed around the question of how reading a book or text can alter one's vision of the world. Using Quentin Meillassoux's speculative realism (anti-correlationism) as elaborated in *After Finitude: An Essay on the Necessity of Contingency* (2008), Avenessian and Hennig attack anew first the question of the arbitrariness of the sign, of the manifold postulated aporias between signifier and signified. Starting from Frege, Peirce, Saussure, Quine and Kripke (and surveying everyone from Gadamer to Derrida to Shklovsky in between), Avenessian and Hennig find their way to an ontology of language based on its metonymic and recursive qualities (Avenessian & Hennig, 2018). From here, it is Meillassoux's proposition "*only facticity is not factual* – viz., only the contingency of what is, is not itself contingent" that guides a vision of language as: not arbitrary, but recursively constructed and "*contingent*"; not free-floating, but "*contiguous*"[12] in systematic part-to-whole relations; not indifferent to our thoughts, but "*plastic*" in their shaping of them; and amusingly, according to Roman Jakobson, we must not forget (much in the spirit of Wittgensteinian language games) that when talking of cheese or *fromage*, language is first and foremost "obligatory" (Meillassoux, 2008, p. 80; Avenessian & Hennig, 2018, p. 28-29). It is the

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[12] The reader is encouraged at one point to consider the physical correlation between a written word and the thing it describes, for example the word "tree" printed on this page and the concrete nearness of that inky page, by stretching and angling, to an actual tree, potentially the very *arbre* it is trying to identify (Avenessian & Hennig, 2018, p. 58).

"language of thought" (and poetics of thought too) stemming from these characteristics of a speculative-realist theory of language that give it not just the ability to form the subject, but to make the world a different world (Avenessian & Hennig, 2018, p. 146). As Avenessian and Hennig put it, "language unfolds our understanding of the world to the extent to which it develops itself" as a "differentiation of thought and world" (Avenessian & Hennig, 2018, p. 86). Or, in Wittgensteinian terms, "To express a new thought is always also to invent a new language game for this thought", a game that is recursively contingent on existing language, metonymically contiguous in the world, and one that rewrites, if you will, our plasticky mind so that we see the world with new eyes (Avenessian & Hennig, 2018, p. 86). This is strikingly similar to, although perhaps subtler than, Deleuze's map-making language, and coincides with Virno's assertions concerning the *active* effects of language on the subject and their world.

Part of the world-altering process of metanoia involves the Derridean phrase "sliding of the signifier" which is used by the authors to still indicate a sliding of meaning, but not in a metaphysical criticism of the false signified: here it refers instead to the flexibility of "lingual part-to-whole relations", which, when they slide, are instances of metanoia happening (Avenessian & Hennig, 2018, p. 184). In a language-divestment paradigm, corporations harvesting user language data would absorb the gliding of signifiers *as they are gliding*, which means the individual *metanoia* process is reproduced in, or appropriated by, a data-brokerage and advertising venue. Advertising profiles of users based on their language use would constitute not "data doubles" of users, as the popular term belies some kind of fidelity to the linguistically cloned individual. Instead, through advertisements that are fed back to users (with increasingly brief delay) a castrated linguistic-you is created, honed just to the aspects of one's speech that adjoin with market viability, with purchasing potential: an Ersatz Shopping-Self is grown out of

the history of one's language, and the linguistic history (in the form of language data) of one's blooming subjectivity. The smartphone is an ideal vessel for this extremely lucrative process because it is always at hand, and, as I shall investigate in the following sections, designed specifically the permit language data collection by its native as well as third party applications. This re-appropriation of language not only meddles with the *metanoia* process, but disperses some of the linguistic potentiality necessary for its arrival: it impedes lingual coalescence in favour of the short-term, ersatz-metanoia of a jingle caught in your head, a slogan bombarding your social media, a movie poster that, according to some statistical model, your own words demographically predispose you to enjoy. These intrusions alter your world in a nagging or at worst compulsive manner right up until the moment a purchase is made, and the ritual completed. And, just as the embers of commercial participation are snuffed out, one's fire pit is re-established as a good place for future kindling. In other words, the metanoia process is hijacked.

Considering the Subject of Linguistic Divestment

Overall, the effect of the invasiveness of language divestment practices is a delicate and in many ways unintuitive matter. How can we measure what this process does to our cognition, our language use, our "linguistic cognition"? Knowing what we know about language and subjectivity, language and thought, and language and metanoia, some speculations can be made:

1. Forging Linguistic Channels of Capital:
   We smoothen and accelerate hypercapitalist language economies through our immaterial labour each time our language is absorbed into the currents of language economies. Each word we feed into the system smartens its marketing instincts, strengthens its predictions, and monetarily justifies its existence.

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2. Memory and Inattentive Attention:

   In the form of attentions and linguistic inputs something of our memory is lost to
   language-vacuuming and language-harvesting corporations. For instance, "Why
   bother remembering what I can easily Google search for?" is a question we
   unwittingly ask each time we search online for knowledge that we once held in our
   brains. The ready-at-handedness of smartphones only increases (through recurrence)
   our reliance on external confirmation and lessens the power and practice of
   introspection.

3. Word and Control: The Deleuzian Subject:

   Language becomes a form of consumer control. In language-divestment systems, it is
   a method of measuring people; and, by the end, a means of turning a certain kind of
   linguistic behaviour into a certain kind of consumer. Nurturing this entrained
   consuming-subject sustains the immaterial labour of hypercapitalistic enterprise.

Linguistic Entrainment and The Smartphone

From this literature review a general model emerges: a Deleuzian hand-, thumb-, eye-,
and "brain"-brain (fundamentally a "scanning" brain) is *entrained* by the affective properties and
enticing outputs of the smartphone, which is preprogrammed to encourage more of the inputs
that in turn caused its glowing, attention-holding outputs. As a device, it is interactive with and
through us just as we are interactive with and through it. This Deleuzian model, which subsumes
Wiener's feedback principles[13] and Simondon's theory of pre-individuality, revolves around the
ideas of supervenience[14] and cognitive interference, and explains the type of relationship that
must take place between handheld technology and a *scanning-assemblage-brain-subject* in order

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[13] Both negative "corrective" feedbacks and positive "amplifying" feedbacks condition
smartphone entrainment.
[14] The non-objectifiable brain supervening over neuronal inputs of the objectifiable brain.

for that technology to produce symptoms and behaviours constituting entrainment. This neurological cycle illustrates the top half of the figure-eight comprising this study, and the bottom half is sketched out by asking the question "why entrainment?" To which I argue for the answer: the absorption of language for profit.

Without hesitation, we may plainly ask again: "why language for profit?" The straightforward answer to this is as simple as it is crude because it ignores the disturbing significance of having to ask such a question in the first place. The deeper, chilling significance of language absorption for profit rests on many things.

First, it rests on how Virno situates language as performative *praxis*, an idea proudly persisting like a basket of fruit in the grander scene of "immaterial labour and capitalism under crisis" painted by his post-*Operaismo* colleagues. Second, on what Virno's philosophy of language and Jaynesian psychology both identify as the power of language for individuation and subjectivity-formation. Finally, on what Deleuzian linguistics and Avenessian and Hennig's metanoia explain as the ability of language to quite literally re-map our world. Individual subjectivity, worldview mutation, and, with the emergence of language economies, passive labour, form a tripartite of rivers with one clear lingual source. It is the instrumental commodification of that source ("commons") through the denaturing of language into fungible data, bought and sold and fed back through phone screens, that unsettles the curious inquirer and uniquely marks the smartphone as a technological artifact of the age of information and control. These themes will be extended upon further, still within a Deleuzian paradigm, in the thematic content analysis in chapter five.

None of the above would be possible were it not for the hypercapitalist language industry founded by Google hovering like a spectre over all modern ICTs, of which smartphones are the

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most newly prominent. This prompts a significant question, the answer to which either validates or nullifies prior anxieties: is the smartphone a nexus of the hypercapitalist practice of language capture? As is obvious by now, the hypothesis following this research question is a form of "yes", suspecting that in miniaturized form, the smartphone seduces its user into engaging with language-divestment economies by appeasing their immediate whims, curiosities, and desires for communication and questioning—a desire reinforced in the brain, thumbs, and eyes through attentive and behavioural entrainment. This hypothesis also explains that the language divested is not the scraps off our mental table, but the forward-moving fluttering that constitutes our very subjective being or ipseity, the extraction of which poses serious questions regarding control, labour, the docile consuming subject, and the side-effects of corporately-mediated textual metanoia.

What remains to be scrutinized is the extent to which language divestment is explicitly acknowledged in smartphone user agreements (including user privacy and data protocols) that legalistically enable this practice to continue, and year after year solidify the smartphone as *both a site of language capture and neurological entrainment*. In the content analysis to follow, I will study the smartphone documents of the Apple iPhone 11 and Samsung Galaxy 10 to see how deliberately they inscribe language divestment into the base functionality of their phones, which in turn holds open the gates of a language economy dependant entirely on the stolen words of mouthless subjects. This content analysis and its findings will fill in the details of the second cycle (the lingual cycle) that forms the bottom half of our figure-eight and thrusts the speedy bicycle of neuro-linguistic entrainment forward. This analysis will either reconfirm or deny the consequences of these two operations for subjectivity and control in smartphone societies.

Chapter III—Technical Summary

Jargon, Industry Terminology, and a Formal Description of Objects of Study

Outlined below are some of the potentially ambiguous or indistinct terms that will be referred to repeatedly throughout the Methods and Analysis chapter. This is intended not strictly as a glossary but as a contextualization of terms and phrases that while familiar sounding may normally elude clear and singular definition outside the confines of a study such as this.

Hardware

The term "smartphone" will be used throughout the following chapter: it refers exclusively to the two ICTs serving as objects of study: the Samsung Galaxy S10 and the Apple iPhone 11, both released in 2019, and both the latest iterations of each company's primary North American smartphone line at the time of this writing.

Digital Files

User Agreement or Terms and Conditions or Data Protocol will refer to any of the documents comprising the data corpus with which the content analysis is concerned. These documents were all found on publicly available websites, and their in-text citations can be found in full among the other references appending this thesis.

Software

The definition of "third party" varies greatly in data discourse, but in the context of this study refers explicitly to services and applications that are neither "native" nor "affiliate" apps and services to the Apple and Samsung smartphone models mentioned above.

Chapter IV—Methodology

An Overview of the Methodological Paradigm Guiding This Study

The methodology guiding the qualitative content analysis at the heart of this study falls

under (and follows the establishment of) an *a-priori* theoretical framework that Creswell in the

second edition of *Research Design* broadly construes as "Transformative-Emancipatory", or

more simply still as the "Concurrent Transformative Strategy", in which "critical theory […] or a

conceptual or theoretical framework" acts as the whirring motor behind method deployment,

problem identification, data selection, analysis and final interpretation (Creswell, 2003, p. 139,

219). The Deleuzean sensory-linguistic brain outlined in the literature review before, along with

the Frankfurtian underpinnings in Virno's language of the multitude, and post-*Operaismo*

notions of immaterial labour, lend themselves quite strongly to this *a-priori* frame. In fact, the

foliage of the entire theoretical tree described in the literature review is tacitly rooted in this

transformative-emancipatory framework, established by the lineage of thinkers from Marx to

Adorno and beyond, if only because it firmly presupposes that smartphones linguistically

effectuate an oppression, exploitation, or more precisely a variety of *control* over large swaths of

its users, and that such a power relation is in the service of a hypercapitalistic force that

linguistically transforms all individuals into consumer-subjects. In short, this entire study is

framed to reveal a dominant power relation (tied up with wealth production, language data, and

language potentiality) which in itself presupposes both a dominator, and those who are

dominated.

In the following chapter however these theoretical nuances—particularly those

concerning linguistic channels of capital, data as crystallized language, memory and language

storage, and consumer subjectivities—will engage in "a dialectical manner", as Patti Lather puts

it in her article "Research in Praxis", with the data gathered and analyzed, allowing this study's empirical component to interactively "generate propositions" of its own (Lather, 1986, p. 267).

Scope of Study

The scope of this study is a result of several constrictions. The first narrowing element was a transition from assessing all smartphones everywhere to just smartphones in one geographic location, for sake of jurisdictional simplicity (the weave of disparities and agreements between British, Chinese, and Brazilian smartphone policies, for example, are confusing and cumbersome to communicate) and also because of a desired focus on my own environment and the greater picture of North American smartphones use, where such devices had a rampant and ramifying prevalence in the last decade: in 2019, Pew Research Center reports that American smartphone use has leapt from just 35% of the total population share in 2011 to 81%, with an additional 20% of Americans relying entirely on their smartphones "as their primary means of online access at home" (Pew Research Center, 2019); Canadians have followed suit, with Stats Canada sharing recently that in 2018, an astonishing 88.1% of Canadian internet users aged 15 and over "Have a smartphone for personal use" (Statistics Canada, 2019).

The next, most crucial reduction was to decide which smartphone or smartphones to examine. To lend the most significance to the results of the study it seemed only reasonable to examine the smartphone brands and models with the most market penetration in Canada and the US, and further still, to narrow by the most recent models of the most popular smartphone brands to detect as it were their cutting-edge and future-indicating declarations of privacy, user agreements, data protocols and so forth. Figures from December 2019 show Apple and Samsung dominating Canadian markets with a combined 80.58% share (50.98% Apple, 29.6% Samsung), and likewise in the United States where they held an 82.5% share at the end of the year (55.55%

Apple, 26.95% Samsung) (StatCounter, 2019, "Mobile Vendor Market Share in Canada";

Statcounter, 2019, "Mobile Market Vendor Share United States of America"). In fact, sales

trends also indicate that none of the 12 most owned smartphone devices in Canada or the United

States in 2018 were anything other than various Apple iPhone and Samsung Galaxy models

(Jkielty—DeviceAtlas, 2019). In keeping with an earlier stipulation on the importance of recency

this led to the Samsung Galaxy S10 and Apple iPhone 11 as my present objects of study.

Object of Study: Smartphone Documentation

Smartphones are not simple objects: there is an assortment of components, electrical,

mechanical, optic, and codified in software, that contribute to its functioning. There is also a

"third" element that is more ephemeral than each of these: the contractual obligations of

smartphone users and smartphones manufacturers themselves, all described in accordance with

certain legalistic standards. This text is also in many ways a social document concerning an

agreement in which services and sacrifices are exchanged and where, so this inquiry will explore,

vagueness prevails in order to maintain certain language data capture affordances; the same

affordances that fuel Google advertising revenue, which constituted 83% of parent company

Alphabet's $171 billion in revenues last year, according to NASDAQ reports (Trefis, 2019). It is

also my contention that the affordances maintained in these "open" terms and conditions

strategically differs from promotional material and public declarations of privacy-centered

approaches to user data, which will also be analyzed to highlight this contrast. All information

pertaining to privacy and user data, specific to both the Samsung Galaxy S10 and Apple iPhone

11, and specific to the Galaxy S10's default "Internet" browser and iPhone 11's default "Safari"

browser, as well as the larger, more encompassing privacy policies, third-party developer

policies, and privacy enhancement and awareness documents have been saved, dated, and

processed for both Apple and Samsung, totalling at about 22 documents for both phones combined.

Instrumentation and Method

My primary tool in organizing and deciphering what will ultimately be a compendium of lengthy PDFs is the software Atlas.TI, which will be used to facilitate "coding" and "indexing" text items. The method guiding this content analysis, inaugurated formally as "thematic analysis" in Virginia Braun and Victoria Clarke's 2006 paper "Using thematic analysis in psychology", will identify and treat the contents of these PDF text documents in four tiers: first, as a data "*corpus*" (the entire batch of Samsung and iPhone smartphone documentation collected); second, as a data "*set*" (a selected portion of the corpuses I intend to analyze; e.g., the Consent to Use of Data sections in the English language portion of Apple user agreements, and not the *Gewährleistungsverzicht* (Disclaimer of Warranties) sections in the German language portions (Apple, 2020f); third, as data "*items*" (each individual sentence in all of the agreements or promotional material analyzed, which together form the main data set); fourth and finally, and of great importance to follow, as data "*extracts*" (the most important data items, coded and interpreted, as they pertain to the argument being set forth regarding the language-data-divestment component comprising one crucial half of the neuro-linguistic entrainment at play in smartphones (Braun & Clarke, 2006, p. 79).

Thematic analysis was deliberately adopted because it is, as Braun and Clarke explain, "essentially independent of theory and epistemology, and can be applied across a range of theoretical and epistemological approaches" (Braun & Clarke, 2006, p. 78). The flexibility and interpretability afforded in thematic analysis, along with its built in six-part structure, make it ideal for the somewhat unconventional agglutination of critical theory and data politics in this

study, and much more feasible than the sphexish delimitations utilized by other qualitative methods (such as Grounded Theory) which rely on artificially quarantining data and theory for as long as possible (presupposing that such a feat *is* possible at all). It is vital, with such dreary and protracted documents (as likewise with the pithy and compendious summations provided on the Samsung and iPhone websites to placate the privacy-concerned) that thematic analysis "minimally organizes and describes [my] data set in (rich) detail" (Braun & Clarke, 2006, p. 79). Opening up these documents to reveal their unifying "themes" differentiates the method at hand from narrative analysis, discourse analysis, and grounded theory by explicitly focusing only on the arising of themes across the various data sets (as they are demarcated from the grander corpus) in order to say something qualitative about the documents themselves and then pass critical judgement on these qualities (that is, assess how they fit as new facts within the transformative-emancipatory framework articulated earlier, and the particularities of the domination or control that they might reliably and validly uphold). With this methodological framework in mind—one that begins with the philosophical underpinnings of the Frankfurt school and ends with the interrogative methods of qualitative analysis just described—we are ready to move on to how the method was deployed, and what things were found by its search for the ineluctable meaning behind the baffling array of promise and obligation, formally maintained by the now quintessential triple-threat of litigation, denial of service, and of course, goodwill to the customer.

Chapter V—Method and Analysis

Thematic Analysis of User Agreements, Privacy Policies, Data Protocols

Continuing from the previous chapter's early explanation of thematic content analysis as a method, and our definition of basic lexical terms (corpus, set, items, extracts), it is important now to ask ourselves: what is a "theme" in thematic content analysis? (Braun and Clarke, 2006, p. 82). Braun and Clarke define a "theme" simply as that which "captures something important about the data in relation to the research question" (2006, p. 82). Themes arise from "prevalence" in a data set—prevalence here bearing a relaxed definition, not married to either serried consistency or dispersed occurrence (i.e., in a way that might as well be enumerated), but rather something in between that depends only on the internal consistency applied to it, and can even take the form (after trotting out evidence) of "in the majority of cases" and "multiple sources indicate" and other such general formulations (Braun & Clarke, 2006, p. 83). The approach taken with this method in this paper is also, in differing from grounded theory's demarcations, theoretically descending upon the data with well-founded preconceptions aplenty, and *not* inductive with a faux-naivety (pretending at an "epistemological vacuum") in a way this researcher thinks would be insincere given the greater methodological framework in play (Braun and Clarke, 2006, p. 84). As will become clear in the following findings, the goal of this entire process is to draw out the "latent" themes in these data sets (Braun & Clarke, 2006, p. 84). The metonymic elucidation made possible by thematic content analysis is especially vital when analyzing legal language, which as Kuner et al. explain "[…] often contains vague, general wording that actually means very little unless read in a specific context […but also] includes clear absolute statements from which no variation seems possible. This is the case when one examines data privacy law" (Kuner et al., 2016, p. 259). The desire for interpretive flexibility in

concepts like "'adequacy' and 'proportionality'" conflicts with the desire for absolute legal

finality—it is the pliable, interpretive terminology upon which most of the following latent

themes are identified (Kuner et al., 2016, p. 259).

As mentioned before, my data corpus for this study totalled in 22 documents from

Samsung and from Apple pertaining directly or indirectly to their Samsung Galaxy S10 and

Apple iPhone 11 smartphone models, respectively. These documents are titled as such:

Table 1	
Data Corpus Documents	
Samsung Privacy Documents/Data Protocols/Software Terms and Agreements (and last date updated/effectivity date)	*Apple Privacy Documents/Data Protocols/Software Terms and Agreements (and last date updated/effectivity date)*
• Samsung Canada Privacy "Commitment" (2020) • Samsung "Privacy Policy For The U.S" (2020) • Galaxy Smartphone "Enhance your privacy" webpage (2018) • Samsung Terms of Service (2019) • Samsung Account Privacy Policy (2020) • Samsung Account "More Items" (2020) • Samsung Ads Privacy Notice (2020) • Samsung Galaxy Security Levant (2020) • Samsung "Our approach to privacy" (2020) • Samsung Developers Privacy Policy (2020) • Samsung Global Privacy and Cookies (2020) • Android Enterprise Security (2020) • Google Android Enterprise Security White Paper (2018) • Android Enterprise GDPR (2020) • Android Enterprise Data Processing and Security Terms (2020) • Android Subprocessors (2020) • Accenture General Terms and Conditions (2018)	• Apple Privacy Policy (Dec 2019) • iOS13 iPad and iPhone Terms and Licence Agreement (2020) • Apple Web Page "Privacy" Statement (2020) • Safari Privacy Overview (2019) • Apple Developer Documentation "Protecting the User's Privacy" (2020) • Apple Generic "We're committed to protecting your data" Privacy Notice Disclosure (2020) • Apple Canada "We're committed to protecting your data" Privacy Notice Disclosure (2020) • Apple Privacy "You have control over what you share" (2020) • Apple "This is how we protect your privacy" (2020) • Apple iPhone 11 Release Page (updated 2020)

• Google Ad Personalization Privacy and Terms (2020) • Samsung Galaxy S10 primary webpage (updated 2020)	

Notes on the Data Corpus

The five following analyses elaborate on themes discerned across select items in the data corpus. It is important to remember that many of these themes represent issues latent in most ICTs but are specifically egregious because of the unique affordances of the smartphone: nonlocality; ready-at-handedness; Deleuzean thumb-brain entrainment. Each of these features enhance the efficacy of the smartphone as a lingo-entraining device.

A final important note concerning the documents comprising the data corpus: the language in these documents achieves the astonishing feat of being at once prevaricating and absolute. This may have something to do with what HLA Hart identifies in *The Concept of Law* as the role of law "as a means of social control" (Hart, 2012, p. 40). He dismisses the notion that the principal function of the law is social control *through litigation or prosecution*, which he sees instead as "vital but still ancillary provisions for the failures of the system" (Hart, 2012, p. 40). Rather, "the law is used to control, to guide, and to plan life out of court" (Hart, 2012, p. 40). To control, to guide, and to plan life are not small charges. Adequate to these enormous expectations, then, are a number of reflexive characteristics present within data privacy law.

The first is an incredible elasticity of *meaning*: Kuner et al. explain how in both the EU Data Protection Directive (1995) and the highly anticipated and frequently lauded EU General Data Protection Regulation (2016), "several key terms such as 'transfer of personal data' have not been given defined meanings" (Kuner at al., 2016, p. 259-260). The perfectly shaped "can of

worms" that this definitional lack opens will be explored later. The second characteristic is profound ambiguity, the effects of which are described by Kuner et al. as "*regulatory outsourcing through linguistic vagueness*"—that is, lawmakers, in the face of the undefinable terms in legal clauses, throw up their spectacle-clutching hands in surrender, "leaving it to the controllers to interpret and implement the vague rules to the best of their abilities, and of course, under the threat of being pursued by the data protection authorities, should their implementation subsequently be regarded as […] inadequate" (Kuner at al., 2016, p. 260). There is nothing propitious about this built-in, vagueness-by-design deferral process—in fact, it bears traces of the sardonic postponements for which the Kafkian parables are so well known (*The Trial* or *The Hunter Gracchus* come to mind). In sum, this means that the data controllers' *interpretations* and implementations are their methods for controlling, guiding, and planning the lives of our data.

The third and perhaps most doleful characteristic of recent data privacy law is explained by Kuner et al. with something like a plea: "What hope is there for the average individual to evaluate the ultimate implications of data processing no matter how clear and plain the language that is used?" (Kuner at al., 2016, p. 259-260). The implication here is startling: no matter how clear and plain the terms and conditions, the privacy policies, or the data protocols make themselves, there is a deeper understanding of what are essentially elaborate data transfer systems that evades the layperson's grasp. The law thus allows the data policies obeying its vague and interpretable regulations to control, guide, and plan our data lives (often by studying and harnessing our language, interests, and habits) in a way that even if *assumed* by knowledgeable users remains fundamentally unclear, hidden, and opaque. It is this tendency towards a normalization of unseen processes that Deleuze identifies in the "crisis of institutions" plaguing, in the examples he provides, the "*prison system*", "*school system*", "*hospital system*",

"*corporate system*", and the "new system of domination" they collectively indicate (Deleuze, 1992, p. 7). To this list we might add another system—the *technological system*—which, hand in hand with "the joys of marketing" seeks its own form of domination in a way that is, to borrow a phrase from Alice Munro, "fairly incapacitating though not unpleasant" for the dominated (Munro, 2006, p. 128). The question posed by Deleuze, in the face of systems that functionally rely on inscrutability, was prescient then and is pertinent now: we must discover "what [we're] being made to serve" (Deleuze, 1992, p. 7). Or, in the language of his enigmatic concluding sentence, we must discover which serpent coils in the Control Society capture and confine us, and then brace ourselves for how their slithering forms differ from the "rigid, arborescent structure" of the Discipline Society's burrowing interiors that Foucault & co. identified in the decades prior (Bogard, 2007; Deleuze, 1992, p. 7).

Now that these three characteristics—elasticity of meaning, deliberate vagueness, and inherent impenetrability—have been established as *typical* of data privacy law, we may advance to our thematic analysis and what it found.

Note About Themes

The four major "organic" themes were discovered and labelled with attention to Braun and Clarke's principle of internal homogeneity and external heterogeneity (Braun and Clarke, 2006, p. 91). This means that while all five themes ineluctably relate to one another (they emerge from neighbouring sentence fragments in the same document corpus), each theme was carved and whittled to stand distinctly alone. Lastly, it is important to remember when reading through the themes that they address one newly speculated cycle—the lingual data cycle—operating between users, devices, manufacturers and data brokers, and that a previous and

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contemporaneous cycle of activity—that of neurological entrainment and user attentions—coincides in real time with the data-language cycle preoccupying these themes.

Theme 1: Language as Personal Data

The previous chapter's literature review emphasized, in a number of ways, the centrality of language to cognition and personhood, its core role as *praxis*, and even how it can be made to reveal the Kantian categories of understanding. Also emphasized was the way in which language can be (and routinely is) informationalized, stored, brokered and sold in a process resembling labour of an "immaterial" variety. With this in mind, we must attempt to surmise the extent to which language is captured by smartphones to serve (in addition to the individuating purposes it has always had) these new financial ends of language harvesting industries.

The principal difficulty with such a study is how to pinpoint, among the underdefined and perhaps fundamentally inscrutable legalise, admissions of this lucrative process that permits language capture. The answer is deceptively simple: to identify heinous instances of deliberate obfuscation and overly broad interpretability in regard to statements, promises, or pronouncements pertaining to, especially, "personal data" or "personal information". These ever-present, fundamentally vague, and interminably interchangeable terms allow language data to glide discretely within their occlusive membrane. This theme of "Language as Personal Data" is best exemplified by the two constitutive sub-themes I have isolated: *Type 1 Ambiguity: Vagueness*, and *Automaticity and Lingual Scope*.

Type I Ambiguity: Vagueness

Vagueness, as a specifically befogging type of ambiguity, serves to mask the blatant subsuming of language into the highly portable categories of "personal data", "personal

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information", etcetera. In the content analysis of user agreements clear evidence was found describing, in as guarded of a way as possible, language collection, especially in relation to web surfing and internet search queries, but also in more disparate manners associated with personalization features and ad customization. The most sinister attempts at concealing user language data capture, however—and unsurprisingly almost all attempts—were those buried within the unclear, highly interpretable language expertly showcased at the top of Samsung's global "Privacy and Cookies" white-sheet, where they announce they will collect, among other things, "Information you provide directly to us"—as if such an imprecise six-word statement has even a modicum of intelligible meaning beyond its obvious rhetorical purposes (Samsung Global Privacy and Cookies, 2020). Here are some more examples of the vagueness I am describing:

Table 2		
Type I Ambiguity: Vagueness		
#	*Samsung Document Extract*	*Coded For*
1	"Customer Data has the meaning given in the Agreement or, **if no such meaning is given, means data provided by or on behalf of Customer** or Customer End Users via the Services under the Account" (Android Enterprise Data Processing and Security Terms, 2020).	• Ambiguity (Vagueness) • Personal Data
2	"**Customer Personal Data means the personal data contained within the Customer Data**" (Android Enterprise Data Processing and Security Terms, 2020).	• Ambiguity (Vagueness) • Personal Data
3	"We will share **your information** internally within our business **to facilitate our business operations**, to provide the Services and to help with your requests" (Samsung Canada Privacy "Commitment", 2020).	• Ambiguity (Vagueness) • Your Information
4	"In order to make the Services available to you […] Samsung **may collect certain information and personal data from you**, and use such information and data in accordance with our Privacy Policy (Samsung Account "More Items", 2020).	• Ambiguity (Vagueness) • Personal Data
#	*Apple Document Extract*	*Coded For*

1	"**Aggregated data is considered non-personal** information for the purposes of this Privacy Policy" (Apple Privacy Policy, 2019)	• Ambiguity (Vagueness) • Meta-Data • Personal Data
2	"We may collect, use, transfer, and disclose **non-personal information** for any purpose" (Apple Privacy Policy, 2019).	• Ambiguity (Vagueness) • Meta-Data • Personal Data

There is almost an innocence to Samsung's longwinded and endlessly interchangeable variations on "personal data", "customer data", and "your information", as if their sly synonymizing belies a self-doubt or moral ashamedness concerning the bare truth of their practices. The half-hearted deception contained in the offhand, almost colloquial usage of "information" and "business operations", as demonstrated in the last two extracts (and many others not included) is befuddling and hard to follow. And yet these quintessentially vague pronouncements are hardly a match for the circular definition in the second extract, which, folding in on itself, microscopically avoids pure tautology. And lastly, there is the borderline non-English of the first extract, its irregular capitalizations adding another layer of inscrutability, prompting readers to puzzle over what *isn't* considered customer data, and how many secondary terms and agreements one must consult to reconcile the mutually inclusive definitional relationship between Customer Personal Data and Customer Data. As we will see in the second sub-theme, this confusion by vagueness is precisely what allows user language to always be among the collected data.

Apple takes a markedly different route: their evasion by means of "aggregate data", as evidenced in both extracts from their Dec 31, 2019 privacy policy is a particularly foul and by now outdated tactic, yet one that they seem more than happy to employ in full force. As Bruce Schneier writes in *Data and Goliath*, "[…] data is content, and metadata is context. Metadata can be much more revealing than data, especially when collected in the aggregate", going on to note

that it is especially important and useful "when you have an entire population under surveillance", such as, in the case of this study, the hundreds-of-millions-large population of North American smartphone users (Scheier, 2015, p. 23). The problem here is that Apple moves the goalposts. They know quite well that "aggregate data" simply means "metadata" (data about data), and on top of that they fail to explain *why*, conceptually, the data that they may or may not aggregate is "non-personal" in any meaningful sense of that phrase, especially if, as former NSA general counsel Stewart Baker said, "Metadata absolutely tell you everything about somebody's life" (Schneier, 2015, p. 23). Enough about someone's life, even, to end it; here are the words of former NSA and CIA director, General Michael Hayden, in 2014 (a little less than a year after the famous Snowden leaks): "We kill people based on metadata" (Cole, 2014, para. 2).

Largely thanks to data law movements in Europe over the last decade, not all of what appears vague in the above extracts is meaningless or undefined: Samsung, through its Android dossiers, and Apple, through its Developer Documentation, make it clear that all key terms in their respective user agreements follow the EU's "General Data Protection Regulation" (GDPR) which, for instance, in Articles 4.1 and 4.2 attempts to define two key terms, "personal data" and "processing", as such (Android Enterprise Data Processing and Security Terms, 2020; Apple Developer Documentation "Protecting the User's Privacy", 2020):

(1) 'personal data' means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person (Official Journal of the European Union, 2016);

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Similarly, "processing" has an explicit definition, one that builds directly on the GDPR's definition of personal data:

> (2) 'processing' means any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction (Official Journal of the European Union, 2016);

The problems with both of these definitions is obvious upon first read-through. For "personal data", the openness is absurd: *any information* relating to a natural person falls under its miles-wide umbrella—including language, of course. "Processing" is equally permissive, but this will be addressed in more detail later. For now, let us meditate on the deliberate broadness of the category "personal data", and the likelihood, as I contend, that it *always includes* datafied natural language. The profitability of language—as explained at length in the literature review in relation to Google's (now Alphabet's) core business model—is indisputable. Also indisputable, I argue, is that this irresistibly profitable practice finds its way into the data collection methods of Apple and Samsung smartphones. Despite their use of vagueness-through-abstraction and vagueness-through-synonymization when disclosing language capture, there are instances when the personal data collected *must* include language inputted into smartphones by their users. Our next conjoined sub-theme speaks to this directly.

Automaticity and Lingual Scope

The admissions of language collection that are hinted at above pair with a greater theme of

automaticity, or the propensity for fully automized and thus indiscriminate and *en masse* data

collection of both language data itself, as well as data surrounding that data. This guaranteed

robustness constitutes a kind of automatic lingual scope of indeterminate size. This is also the

first instance where we begin to see how Apple, at least in their framing of language harvesting,

differs from Samsung—though both corporations partake in the same general category of

behaviour with regards to user language. The minor difference between them is one of initial

collection and eventual lateralization through third parties. The general idea of this sub-theme,

though, is that language data is explicitly and automatically captured by both smartphones.

Table 3		
Automaticity and Lingual Scope		
#	***Samsung Document Extract***	***Coded For***
1	"Information we may **collect automatically** includes information about: […] your use of the Services, including clickstream data, your interactions with the Services (such as the web pages you visit, **search terms** […])" (Samsung USA Privacy Policy, 2020, p. 3).	• Language Capture • Automatic
2	"[…] usage information such as the time and duration of your use of Services**, search query terms when you enter search terms into your device** in connection with a particular Samsung Service, and any information stored in cookies that we have set on your devices" (Samsung Account Privacy Policy, 2020).	• Language Capture • Cookies
3	"Ad networks allow us to […] **track users' online activities over time by collecting information through automated means** […]" (Samsung USA Privacy Policy, 2020, p. 4)	• Language Capture • Automatic
#	***Apple Document Extract***	***Coded For***

1	"We may collect and store details of how you use our services, **including search queries**" (Apple Privacy Policy, 2019).	• Language Capture
2	"When you use Safari, Search in iOS or iPadOS, or Spotlight in macOS, **your searches are sent to Apple servers along with contextual information** like your location or actions taken […] "(Apple Canada Privacy Features, 2020).	• Language Capture • Contextual Capture

The three Samsung excerpts taken together (and the first excerpt taken individually) illustrate a clear admission of two things: the collection of data relating to "search term" and "search query terms" (which is, de facto, language capture); and, the automaticity of such processes ("collect automatically"; "through automated means"). The third Samsung data extract specifically hints at the involvement of advertising networks, something that will be expanded upon shortly, but that reinforces the concept of linguistic scope. It is unclear if there is *any* discrimination among the language data that is collected. All search terms and queries, along with ancillary information including but not limited to clickstream data, time and duration of usage, and web pages subsequently visited are included in what becomes a very broad and colourful type of language capture. Apple's two extracts say much of the same: a system is in place whereby internet searches and queries are automatically sent to Apple servers along with what they refer to as the *context* of the search.

As it evident by now, the most dominant form of language capture on smartphones is accomplished by surveilling the internet browsing, in-app searching, and search engine querying of users (i.e., of the "information seeking act"), whether it be on default internet applications or even within on-device app stores (Watson, 2018, p. 14). These directly acknowledged admissions of language capture are not only buried deep in the middle of dense policy documents, but are themselves few in number, as, I suspect, the vacillating and unspecific

language of "personal data" is legally considered a sufficient admission of this practice despite the fact (as evidenced just before) that it carefully conceals much of this activity. Now we must turn our attention to where this language travels once it is captured.

Theme 2: Inclusivity or the Vacuum Effect

Notions of a "language industry" or "language economy" revolve around entirely novel sets of practices and relatively new understandings of both language and economy. Zwick and Knott, in their excellent study "Manufacturing Customers: The Database as a New Means of Production" relate these practices and understandings to post-Fordism generally, which they characterize as such: "the dominant strategy of capitalist accumulation under post-Fordism is focused on expanding, proliferating and improving symbolic and communicative systems, rather than on the mass production of physical goods" (Zwick & Knott, 2009, p. 227). We acknowledged this re-situation within post-Fordist societies and the shift from production of physical objects to the production of the symbolic and communicative knowledges in our earlier overview of Lazzarato's immaterial labour, Virno's linguistic *praxis*, and the post-Operaismo school more generally. However, where language *is* data (something I attempted to establish above, for smartphones), questions concerning the role of databases in this paradigm inevitably arise.

In Zwick and Knott's reading of Elmer's *Profiling Machines* (2004), they draw out the ways in which dynamically updating databases, as apparatuses of panoptic surveillance, "[use] the collection of personal information to discriminate individuals into previously categorized consumer lifestyle groups or 'profiles'" (Elmer, 2004, p. 41; Zwick & Knott, 2009, p. 223). This represents a kind of (in Deleuzian terms) "modular" surveillance process where the database acts as the site of an ongoing *simulation* of the surveilled consumer population, and thus "becomes

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the site for direct economic value creation while the ambition to control consumers, still

important to modern marketers, […] increasingly [gives] way to the possibility of manufacturing

customers as valuable information commodities" themselves (Elmer, 2004, p. 41; Zwick &

Knott, 2009, p. 223-24). More will be said about the manufacturing of consumer subjects later (it

is the next major theme). What is important to acknowledge here about databases, and what will

be revealed in the excerpts below pulled from the thematic content analyses, is that inclusivity,

or what I've taken to calling the "vacuum effect", applies universally and unconditionally. That

is, when language data is collected, it is *absorbed* into database systems servicing both essential

smartphone needs and services that lie beyond the base functionality of the smartphone itself;

and secondly, language data is always easily accessible to third parties—each with their own

variable data protection standards—because the Samsung Galaxy S10 and Apple iPhone 11 are

permissive by design and grant them inner circle privileges at the very site of language capture.

It is in these two ways that smartphones by default include outside databases and third parties.

Lastly, it would be wise to heed the words of Mark Poster, who twenty-five years ago wrote of

databases, "one does not eat them, handle them, or kick them, at least one hopes not. Databases

are configurations of language; the theoretical stance that engages them must take at least this

ontological fact into account" (Poster, 1995, p. 227). It is in this sense that the databases we are

considering—databases containing language data—have the ontic property of being doubly

linguistic.

Collection as Absorption

It is no wonder that data is absorbed into external databases: the convenience of data as a

resource is undeniable, and the database is one of the few ways, within post-Fordist economic

regimes, to handle "the sheer amount of data produced by contemporary electronic consumer

surveillance" (Zwick & Knott, 2009, p. 226). Indeed, as Castells hinted as it *The Internet Galaxy*

(2001), the "higher volume, and faster speed" defining "technology of transactions" at the turn of

the millennium led inevitably to what Zwick and Knott later called "epistemic regimes of

difference [… that are] historically new and qualitatively different from any previous forms of

market research" (Castells, 2001, p. 84; Zwick & Knott, 2009, p. 226). To be sure, there is now a

newfound capability to turn "all of life into raw material", or at least all of linguistic life, in these

unprecedentedly expeditious database systems (Zwick & Knott, 2009, p. 227). In the user

agreements, the language of "processing" or "third party processing" often belies this rapid

absorption of user data into powerful, valuating databases.

Table 4		
Collection as Absorption		
#	*Samsung Document Extract*	*Coded For*
1	"**Google will process Customer Personal Data** for the purposes of providing the Services to Customer in accordance with the Terms" (Android Enterprise Data Processing and Security Terms, 2020).	• Absorption • Database • Processing Personal Data
2	"**Subprocessors means third parties authorized** under these Terms to have logical access to and **process Customer Data** in order to provide parts of the Services" (Android Enterprise Data Processing and Security Terms, 2020, p. 3).	• Absorption • Subprocessing Personal Data • Third Party
3	"Google may, subject to Section 10.2 (Transfers of Data Out of the EEA), store and process the relevant Customer Data **anywhere Google or its Subprocessors maintains facilities**" (Android Enterprise Data Processing and Security Terms, 2020, p. 10).	• Absorption • Subprocessing Personal Data • Third Party
4	"You acknowledge and agree that some of the functionalities or services offered by the Samsung Services may be provided by Samsung's affiliates or **subcontractors on behalf of Samsung, or by third party service provider, included but not limited to** Linked Services providers" (Samsung Terms of Service, 2020, p. 6).	• Absorption • Subprocessing Personal Data • Third Party

5	"Google stores data in a **multi-tenant environment on Google-owned servers**. The data and file system architecture are replicated between multiple geographically dispersed data centers" (Android Enterprise Data Processing and Security Terms, 2020, p. 17).	• Absorption • Subprocessing Personal Data • Database
#	*Apple Document Extract*	*Coded For*
1	"All the information you provide may be **transferred or accessed by entities around the world** as described in this Privacy Policy" (Apple Privacy Policy, 2019, p. 12).	• Database • Processing • Data Transfer • Personal Information
2	"We also collect data in a form that does not, on its own, permit direct association with any specific individual. **We may collect, use, transfer, and disclose non-personal information for any purpose**" (Apple Privacy Policy, 2019, p. 5).	• Database • Data Transfer • Processing • Metadata / Aggregate Data
3	"Apple, as a global company, has a number of legal entities in different jurisdictions which are responsible for the **personal information which they collect and which is processed on their behalf** by Apple Inc." (Apple Privacy Policy, 2019, p. 12)	• Database • Processing • Personal Information
4	"Differential Privacy **adds random information to your data** before it's analyzed by Apple, so we can't link that data to your device. Instead, **patterns appear only when the data is combined with the data from many other users**, because the random additions average out. These patterns help Apple gain insight […]" (Apple "Approach to Privacy", 2019b, p. 2).	• Database • Processing • Metadata / Aggregate Data • Network Analysis

The second and fourth Samsung extracts above hint at activities generally described as the "processing" and "subprocessing" of customer data through subcontractors or third parties—something that the first, third and fifth extracts elaborate upon, revealing that they imply Google's heavy involvement in delivering smartphone services. Indeed, as Samsung plainly states in one of its hundred variations of the same fact, "Google and its affiliates use a range of third party subprocessors to assist them in connection with the Services" (Android Enterprise Subprocessors, 2020). The admission of "multi-tenant" and "geographically dispersed" Google

housing environments for processing user data also comes with an admission of third party

collation and data recombination, which factors into the next sub-theme (Android Enterprise

Data Processing and Security Terms, 2020, p. 17). Apple follows a similar line even though they

again elect to describe their own behaviour differently. Global transfer and globally widespread

databasing of "all the information you provide" as a user of their smartphone (which includes

language data) is a built-in condition of their privacy policy (Apple Privacy Policy, 2019, p. 12).

So too, as evidenced in extract two, is the collection, transfer, and disclosure, along the lines of

these globally dispersed databases, of all "non-personal" metadata or aggregated personal data.

Most pitiful of all however is the faux-generosity contained in the oddly named "differential

privacy", found in Apple extract 4—a paltry attempt at anonymization that immediately

backsteps by admitting that user data is still generative and pattern forming the moment it is

combined (which it automatically is in databases) with data from other users (Apple "Approach

to Privacy", 2019b, p. 2).

But there is a deeper link beneath all of these allusions to databasing activity: Samsung is

openly linked to Google, as is commonly known and evidenced in the extracts above, but Apple,

despite no mention in any of the documents analyzed, plays a similar (albeit masked) role of leal

host for Google, Google's affiliates, and the language harvesting industry they pioneered.

According to 2019 reports from Goldman Sachs analysts, "20% of Apple's Services

revenue" the year prior came from "traffic acquisition costs (TAC) paid by rival tech company

Google"—that is, Google paid Apple around US$9.5 billion in 2018 to remain the default search

engine on iOS devices, and in 2019 it is speculated they paid somewhere near US$12 billion for

the same privilege, showing their commitment to the search engine and Google Ad ID business

model and faith in that model's multi-billion dollar viability going forward (Deakin, 2019; Nagy,

2019; Salinas, 2019). It is no small hypocrisy that Apple fails to mention this at all in their documents detailing privacy provisions and data protocols.

In fact, Apple does the exact opposite of mentioning a billion-dollar connection to the largest language-data harvesting entity in the world. Instead they tout, several times across several documents, their "Intelligent Tracking Prevention", wherein "a simplified system profile" makes it more difficult for companies to track you, the user (Apple Web Page "Privacy" Statement, 2020g, p. 3). One towering fact is overlooked by this claim: no matter how obfuscated your data becomes by lowering its individually identifying resolution (reframing as grouped metadata is one method of doing this), it *still contributes* to the databases of the most sophisticated companies that profit from user data collection. The productivity of the individual user, their "immaterial labour", and the expropriation and valuation of their language is not hindered by lowering—pixelating, if you will—the resolution of each individual's unique identity before the eyes of corporate perceivers. In fact, the argument can be made (as we shall see with the next major theme) that the engines of databases thrive on large commonalities and broad similarities among groups of individuals, making the eventual re-deployment of modulated advertisement campaigns more efficient and effective *because* they are wide-reaching instead of individually tailored or minutely preoccupied.

A question may be posed: why do Apple and Samsung (and Google) need to continuously absorb user language data? Surely too much data is a bad thing? The answer to this (and also the corporate rationale for the aforementioned automaticity, widened lingual-contextual scope, and overall relentlessness of language capture and databasing) has to do with a kind of entropic database degeneration, resulting in what Zwick and Knott refer to as data obsolescence:

"[…] the recurring generation of surplus value through the production of

customer assemblages is not based primarily on the accuracy of data storage

and categorization but on the continuous obsolescence of previous data

flows as well as the constant refinement of the recoding technique" (2009, p. 231).

It is in response to a hypercapitalist crisis of speed that a reflex of compulsive refinement

has emerged within Google, one that makes insinuating itself at the site of both of these

smartphones a billions-of-dollars necessity. They must, at quite literally all costs, continually

shorten the distance between themselves, marketers, data brokers and customers. This helps them

stave off errant modulations based on outdated or "obsolescent" data. To be sure, in the ravenous

spirit of post-Fordist capitalism and "its continuous search for increased efficiencies in

connecting production and consumption in the pursuit of more flexible accumulation strategies

[…] the database has moved into the center of surplus value creation today" (Zwick & Knott,

2009, p. 228). This collapse also virtualizes, to some extent, the metanoiac part-to-whole process

of living language in new and unprecedented ways, the significance of which will be speculated

upon later. Now we must turn and ask: who does the database serve?

Permissiveness & Third-Party Privileges

The theme of inclusivity is bi-directional. Data is transferred out, across, and far away

onto remote databases, but only because Google (and an umbrella of third parties) are allowed in,

through, and to the heart of the smartphone. It is something like an informational circulatory

system with veins and arteries pumping in opposite directions. Permissiveness by design allows

third parties to have a privileged relationship with the databases constantly emerging and

modulating from data gathered at the source of language input itself (the smartphone). In the

content analysis, evidence of this was found in rampant allowances (in terms of both access to

data and lowered data usage obligations). Bizarre instances of this include when smartphone

manufacturers shift the onus of data responsibility onto the users themselves. One stark example

of this appears in Samsung's privacy policy document for app developers when they announce

that they wash their hands of any activity taking place on "public areas of a website, mobile

application, or other online service[s]" hosted by their smartphone (Samsung, Developers

Privacy Policy, 2020). This, I argue, is part of a larger script of intentional permissiveness by

Samsung. They invite third parties to play their data collection games on the Samsung Galaxy

S10 smartphone by alleviating any shared responsibility for user data protection in favour of a

not-so-fair user warning that lies carefully hidden within a lengthy, technical document. This

gives third party apps, third party sites, and data brokers in general free range of access at the site

of the smartphone—where users already compulsively spend so much of their free time and

language—thus emboldening new efforts of concentrated data capture (of which language data is

without a doubt the most intrinsically valuable).

Table 5		
Permissiveness & Third-Party Privileges		
#	*Samsung Document Extract*	*Coded For*
1	"We do not control, and are **not responsible for, how other users of the Business Services may use this information**. For example, **personal information that you submit in public areas** could be collected and used by others to send you unsolicited messages or for other purposes" (Samsung, Developers Privacy Policy, 2020).	• Database • Third Party • Deferral of Responsibility
2	"Through certain Services, we may collect **personal information about your online activities** on websites and connected devices **over time and across third-party websites, devices, apps** and other online features and services. We may use **third-party analytics services on the Services, such as those of Google Analytics**" (Samsung Canada Privacy "Commitment", 2020, p. 5).	• Third Party Analytics • Databasing • Google Analytics • Personal Data • Services • Data Disclosure
3	"**We may share your personal information with affiliate companies of Samsung Electronics, as**	• Third Party • Samsung Affiliates

	well as with companies that provide services on behalf of Samsung Electronics. We may also share your personal information with trusted partner companies […] that provide you with […] **information about products and services you may be interested in**" (Samsung Canada Privacy "Commitment", 2020, p. 3).	• Targeted Ads
4	"The information we obtain may be **disclosed to or collected directly by these providers and other relevant third parties** who use the information […]" (Samsung Canada Privacy "Commitment", 2020, p. 5).	• Third Party Analytics • Databasing • Data Disclosure • Google Analytics
5	"Google may, subject to Section 10.2 (Transfers of Data Out of the EEA), **store and process the relevant Customer Data anywhere Google or its Subprocessors maintains facilities**" (Android Enterprise Data Processing and Security Terms, 2020, p. 10).	• Processing and Subprocessing • Google Analytics
6.	"Our Business Services may link **to third-party websites and services** that are outside our control. **We are not responsible for the security or privacy of any information collected by websites or other services**. You should exercise caution […]" (Samsung Developers Privacy Policy, 2020, p. 3).	• Third Party • Deferral of Responsibility
7	"Some of the content, advertising, and functionality in our Services is provided by third parties. **These third parties may use cookies, beacons, tracking pixels, and other tools to collect information** about your use of these Services. These third parties are not controlled directly by Samsung, so we recommend that you check their privacy policies to understand how they use your data" (Samsung Account Privacy Policy, 2020, p. 15).	• Third Party • Deferral of Responsibility
#	*Apple Document Extract*	*Coded For*
1	"At times Apple may **provide third parties with certain personal information** to provide or improve our products and services, including to deliver products at your request, or to **help Apple market to consumers**" (Apple Privacy Policy, 2019, p. 7).	• Personal Information • Targeted Advertising • Third Party
2	"We **encourage you to learn** about the privacy practices of those **third parties**" (Apple Privacy Policy, 2019, p. 12).	• Third Party • Deferral of Responsibility
3	"Certain Services may display, include or make available content, data, information, applications or materials from **third parties** ("Third Party	• Third Party • Deferral of Responsibility

	Materials") or provide links to certain **third party** web sites. By using the Services, you acknowledge and agree that **Apple is not responsible for examining or evaluating the** content, accuracy, completeness, timeliness, validity, copyright compliance, legality, decency, **quality or any other aspect of such Third Party Materials or web sites**" (iOS13 iPad and iPhone Terms and Licence Agreement, 2020, p. 5).	
4	"Apple News **delivers content based on your interests**, but it **isn't connected to your identity**. So Apple doesn't know what you've read" (Apple Web Page "Privacy" Statement, 2020g, p. 8).	• Tailored Content • Oxymoron

Smartphones are inclusive: they vacuum into their hollow bodies third party entities that then wallow and thrive inside, like bacteria in the gut. Samsung extracts 1, 6, and 7 demonstrate the total release of responsibility as far as third parties are concerned when they present themselves and are interacted with at the site of the smartphone. Extracts 2 through 5 demonstrate Google Analytics' focal presence in the Samsung Smartphone, with all the Google Ad ID and data brokering that belonging to such a system involves. Apple, while at times more hostile to third parties—default browser Safari "minimizes the amount of data collected by Apple and shared with third parties", and "Smart Search field" reduces the amount of cookies accessible to third parties—is not much better in any meaningful sense (Safari Privacy Overview, 2020, p. 3, 6). Not only does Apple forget to mention what "minimizing" data collection in Safari entails, but, as we saw earlier with their misleading personal/non-personal data dichotomy, their cookie and reduced resolution standards bear little weight in our present analysis of language capture. Overall, there is a general trend of third party access, or permeability, so that outside parties get special access to both Samsung and Apple databases, and, as seen with all excerpts coded for "deferral of responsibility", they gain additional privileges in the form of relaxed privacy standards.

Now that we know that language is selected and organizationally hidden within the generalized membrane of "personal data", and the extent to which that personal data is collected by Google and other third parties, and made available for data brokers, database marketers, and advertising agencies, we arrive at the third and arguably most important theme of this discussion, and the one that significantly unifies the cycles of language capture and neurological entrainment.

Theme 3: Crafting the Consumer-Subject

There is in the GDPR, article 1.26 specifically (and a few others), a warning against "pseudonymization" which, as its crude portmanteau indicates, is when the cord of identification between persons and data is only superficially severed and may easily be re-established through the introduction of ancillary information (Official Journal of the European Union, 2016). The European Commission's website puts it even more succinctly: "For data to be truly anonymised, the anonymisation must be irreversible" (European Commission, 2020). This, in many (but not all) cases, even includes internet cookie ID. The emphatic step in this stipulation is "true" anonymization. While surely a temporary inconvenience for database marketers, this provision is almost risible in the face of the data collection apparatus to which it applies. We must ask ourselves: to what extent does *individual* anonymization matter in the context of metadata databases that flourish using aggregates of individuals? To what extent does anonymization slow the long-speared thrust of linguistic capitalism and a language industry that specifically focalizes its resource extraction around the potentially addictive, sensorially-entraining smartphone? Does anonymization hinder at all, say, the language data empire that Google oversees? Or the language industry imitators who modelled their companies after them? These questions are

difficult to answer, but the structure of the current system indicates that the answer is some version of "no".

The "spirit" of language collection, and its demonstrable efficacy, surpasses anonymization by utilizing the logic of databases which in fact *benefit* from "abstracting human bodies from their territorial settings and separating them into a series of discrete flows" (Haggerty and Ericson, 2000, p. 606). Indeed, even if your language data is not tied and fed through advertisements directly back to yourself after data absorption, transferral, translation, and redeployment, you *still contribute* to the generalized profiling of your *type* of person, which, as we have already seen, is perhaps *more* valuable when trying to convert swaths of individuals into a fungible audience. Were this not the case, corporations would quickly arrive at the paradox of total control, wherein mere dictation and command eliminate the possibility of profiting from behavioural fluctuations among a surveilled populous. Indeed, as Zwick and Knott maintain: "[…] within the rules of post-Fordist accumulation the *customer production* [emphasis added] process does not produce surplus value through the individualization and homogenization of diverse populations, as Foucauldians would have it, but through the endless and efficient modulation of consumer subjectivity", something which signifies an "overall reversal of the production process" (2009, p. 239; 241-242).

The spirit of language collection then, as it is currently practised, relies on making an intensive use of simulational databases in order to routinely manufacture groups of individuals using inferences made from their harvested language (language dispensed in Google queries and internet browsing). Harvesting language for this purpose, by extension, involves harvesting linguistic indexes of user interests, mental states, and lastly an essential, *curiosity-driven* fragment of their individuation. This process transforms them all, within the hollow world of

databases, into purchasable and exploitable potential consumers, or dividuals. The Body of Capital then has the capacity—after accreting, aggregating, unfolding, unrolling, disentangling, and modularly re-organizing language data—to achieve an advantage in its pursuit of encoding behaviour. This reterritorialization is only possible if the deterritorialization—"capitalism's schizophrenic tendency"—of language succeeds, or if, to recite a Lyotardian refrain that Zwick and Knott employ, "there is nothing left but a little price tag, the index of exchangeability" (Lyotard, 1977, p. 20; Zwick & Knott, 2009, p. 229). As we shall see, this reterritorializing and re-manufacturing spirit persists in the form of "personalization", "customization" and outright advertisement delivery.

Personalization, Customization, and Notifications

Through the jargon of "personalization" of experience, Samsung and Apple convey the power of databasing and consumer crafting. As Zwick and Knott put it, "rather than adjusting the functionality of commodities to match consumer desires, marketers can now *modulate*, at very little cost and in real time, the functionality of consumers to match an existing commodity" (Zwick & Knott, 2009, p. 238). To "personalize" means to intensify the practice of encoding flows, of drawing a person's behaviour closer to the path of their database dividual. The triangulation of this information with one's data across third party sites in advertising networks establishes a form of simulational control; its prime directive is to implement a harmonic behavioural leash—consumer entrainment—with the real-life counterparts to its digital nodes.

Table 6	
Personalization, Customization, and Notifications	
#	*Samsung Document Extract*	*Coded For*
1	"Ad networks allow us to target our messaging to users considering demographic data, users' inferred	• Targeted Ads • Profiling / Advertising ID

	interests and **browsing context**" (Samsung USA Privacy Policy, 2020, p. 4)	• Personal Interests and Context
2	"To provide **customized content and personalized services** based on your past activities on our Services and your location […] To provide **customized advertising, promotions, and offers that might interest you on our websites, third-party websites, and online platforms such as social media sites** with your separate consent if required […] To provide promotions and offers by way of **direct marketing communications including push notifications**, only where you have given us your separate consent, turned this feature on or as permitted by law. […] to help us better understand our customers in order to offer **the most relevant** communications, services, and **experiences to you**" (Samsung Canada Privacy "Commitment", 2020, p. 6).	• Customization • Social Media • Third Party • Notifications • Targeted Ads
3	"We collect personal information that you provide directly, information about how you use our services, and **information from third-party sources, such as social networks and third-party analytics providers**. We use this information to provide you with services, understand the way you use our services so we can **improve and personalize your experience**, and develop the most relevant apps, technologies, and **content for our customers**" (Samsung Canada Privacy "Commitment", 2020, p. 3).	• Personalize • Relevant Content • Triangulation • Profiling / Advertising ID
4	"Online Tracking And Interest-Based Advertising: Through certain of the Services, **both we and various third parties may collect information about your online activities** to provide you with **advertising about products and services tailored to your individual interests**" (Samsung "Privacy Policy For The U.S", 2020, p. 4)	• Personalize • Relevant Content • Triangulation • Profiling / Advertising ID
#	*Apple Document Extract*	*Coded For*
1	"**Apple shares personal information with companies who provide services such as information processing,** extending credit, fulfilling customer orders, **delivering products to you**, managing and enhancing customer data, providing customer service, **assessing your interest in our products and services, and conducting customer**	• Profiling / Advertising ID • Third Party • Personalize • Assessing Interests • Product Delivery

	research or satisfaction surveys" (Apple Privacy Policy, 2019, p. 7).	
2	"Advertisers use the **Advertising Identifier** to control the number of times you see a given ad, to measure the **effectiveness of ad campaigns and to serve you more relevant ads** […]" (Apple Privacy "You have control over what you share", 2020, p. 13).	• Profiling / Advertising ID • Third Party • Personalize • Assessing Interests

This drive to "better understand" users by assembling constellations of user information and endlessly gauging user "interests" ("assessing your interest" using "personal information" as part of "delivering products to you", as Apple puts it in extract 1, indicates again the neurocapitalist urge to "get inside the heads", so to speak, of customers, and to guide their *scanning-language-brain* into profitable consumer behaviour by providing appropriately conducive sensorial fields, or environmental conditions (Apple Privacy Policy, 2019, p. 7). In the second Samsung extract, the plea for systems enabling "direct marketing communications including push notifications" (assuming the user consents) evinces this (Samsung Canada Privacy "Commitment", 2020, p. 6). So too does Advertising Identifier, which is engaged by default to "serve you more relevant ads" and hone the accuracies of ad campaigns (Apple Privacy "You have control over what you share", 2020, p. 13).

Samsung's absurdly two-faced promises (not included in the above sample of extracts) that "Our priority is to use the information we collect to enhance your experience with our products and services", and that personal information is obtained for the sole purpose of "improving and customizing your experience within the Services" is typical in that is situates the smartphone manufacturer as doing no more than servicing our needs as customers (Samsung "Approach to Privacy", 2020, p. 4; Samsung "Privacy Policy For The U.S", 2020, p. 5). What is also typical about these claims, and what makes them duplicitous, is the double-bind they

conceal. The combination of services and ads is not non-negotiable, but in the cases analyzed here always involves a trade-off wherein service suffers the more a user restricts the data flow from them to data brokers and advertisers.

Services and Ads

There is an implicit trade-off built into a user's relationship with smartphones. The only way to significantly disengage systems that generate targeted ads and feed the language industry is to limit the capabilities of one's phone, to the detriment of one's experience with the device and its overall usefulness. Perhaps more importantly, this seesaw defines the entire underlying functionality (and, economically speaking, the actual primary function) of the smartphone: to turn language surveillance into valuable language data, and harness modulating databases of this information by creating, selling, and manufacturing audiences comprised of consumer-subjects.

Table 7

Services and Ads

#	Samsung Document Extract	Coded For
1	"**Cookies help us and third parties provide you with relevant content and advertising by collecting information about your use of our Business Services and other websites and apps** […] you can configure your browser to accept all cookies, reject all cookies, or notify you when a cookie is sent. Each browser is different, so check the "Help" menu of your browser to learn how to change your cookie preferences […] **Please note, however, that some Business Services may be designed to work using cookies and that disabling cookies may affect your ability to use those Business Services, or certain parts of them** (Samsung Developers Privacy Policy, 2020).	• Opt-Out Trade-off • Cookies • Third Parties • Targeted Ads • Services
2	"We may collect and combine information about your online activities over time and across Samsung and **third-party devices, apps, websites and online**	• Targeted Ads • Third Parties • Data Accretion

	services to provide you with Customized Ads" (Samsung Ads Privacy Notice, 2020, p. 3).	
3	"You can choose not to provide us with certain types of information, such as information requested as part of registering a Samsung account. **In some cases, this may limit your ability to use some Services**" (Samsung Canada Privacy "Commitment", 2020, p. 6).	• Opt-Out Trade-off • Services • Personal Data
4	"However, withdrawing consent, requesting the deletion of your personal information or **asking us to restrict or limit processing, sharing or transfer of your personal information may also result in a loss of access to Services we provide**" (Samsung Canada Privacy "Commitment", 2020, p. 8).	• Opt-Out Trade-off • Services • Personal Data
5	"You may opt out of receiving Customized Ads from Samsung. If you opt out of receiving Customized Ads, the Service will no longer use the information specified in this Privacy Notice to deliver Customized Ads to you. **Please note, however, that opting out of Customized Ads may not prevent the delivery of all advertisements from Samsung, including tailored advertisements provided by other Samsung services**" (Samsung Ads Privacy Notice, 2020, p. 9).	• Opt-Out Trade-off • Ads • Personal Data
#	*Apple Document Extract*	*Coded For*
1	"**Apple and its affiliates may share this personal information** with each other and use it consistent with this Privacy Policy. They may also **combine it with other information to provide and improve our products, services, content, and advertising**" (Apple Privacy Policy, 2019, p. 2).	• Targeted Ads • Services
2	"If you do not wish to receive ads targeted to your interests from Apple's advertising platform, you can choose to enable Limit Ad Tracking, which will opt your Apple ID out of receiving such ads […] **You may still see ads in the App Store or News based on context like your search query** or the channel you are reading. **In third-party apps, you may see ads based on other information**" (Apple Privacy Policy, 2019, p. 6).	• Targeted Ads • Opt-Out Trade-off • Search Query • Third Party
3	"We also use **personal information** to help us create, develop, operate, deliver, and improve our products, **services**, content and advertising" (Apple Privacy Policy, 2019, p. 3).	• Personal Information • Services

Apple extract 1 and 3 show how personal information is, either when combined, non-personal, or individually unmixed, always linked to both "services" and "advertising". The rigidity of this double bind is reflected in Apple excerpt 2 and Samsung excerpt 5, where opting out limits ads targeted to one's interest, but not ads in general—and, in reality, since in-app search query is still fair game, doesn't really limit ad targeting comprehensively. As long as personal information, such as queries and web browsing, are going into the device, even if that information is limited, advertisements will be generated in response using the immense database and transference systems acknowledged earlier. Samsung extracts 1, 3 and 4 show, too, how even the de-personalizing opt-outs always come with a dissuasive component. Whether that be the uninformative "[…] this may limit your ability to use some Services", or the dimly threatening "[…] asking us to restrict or limit processing, sharing or transfer of your personal information may also result in a loss of access to Services we provide", the message is the same: we would really prefer if you didn't opt-out (Samsung Canada Privacy "Commitment", 2020, p. 6; Samsung Canada Privacy "Commitment", 2020, p. 8).

As has been made clear in the above two sub-themes, it is your *language itself* that is deterritorialized when it is dulled into mere data, stored in massive databases, and later allotted accumulative value across these discrete databases. Words are harboured in these data pods so that our language is made to serve corporations that spend enormous amounts of money attempting to coerce us through sensory exposure into controllable patterns of interest, commodity purchase, or even belief (a general belief in the organic necessity of desire for the new, the coveted, and the material, for a start). Efforts are made to nurture and promote a popular subjectivity among us—through the use of our own individuating language—that is defined solely by the *how* and *when* and *what* of its extrinsic consumptions and acquisitions; extrinsic

because internal language is drawn out, presumed lost, and captured in ways we cannot see, and returns to us at some point in the future in the form of commodity objects faintly contiguous with those words.

In *Anti-Oedipus*, Deleuze and Guattari introduce the concept of the "Body Without Organs" by comparing it to an egg. "[…] it is crisscrossed with axes and thresholds, with latitudes and longitudes and geodesic lines, traversed by *gradients* marking the transitions and the becomings, the destinations of the subject developing along these particular vectors" (Deleuze & Guattari, 2009, p. 19). The consumer subject is born along these same lines, with one seismic difference, of course: the Body of Capital continually inscribes its flows of desire, imposes its vectors, axes, and gradients, and in doing so interferes in the hatching process (Deleuze & Guattari, 2009, p. 237). This hijacking of the virtual, or guiding of potentialities, in order to re-organize the human animal into a consumer-subject is not arbitrary but compelled. As Zwick and Knott note, the capacity for databases to:

> "[…] spot creative, non-conforming, and unexpected forms of consumer life has not been lost to marketing executives who understand very well that future market opportunities often evolve out of the social and cultural innovations generated in *un*controlled and *un*disciplined spaces of consumer culture […] Indeed, given the need of a growth-dependent, contemporary capitalism to reproduce new consumer needs at an ever-increasing pace, too much consumer homogeneity would constitute a serious challenge for contemporary strategies of accumulation (Zwick & Knott, 2009, p. 225).

Nurturing the consumer-subject can thus be seen as a palliative response to the aforementioned crises of overproduction highlighted by post-Operaist thinkers (Ratajczak, 2018, p. 124). It is important here to note that data-subjects, as rendered and re-rendered by databases,

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are, in the simulational side of the world, reduced to "the exchange value of each assemblage" (Zwick & Knott, 2009, p. 230). This ascribing of "relations of production and surplus value" to their reductions is a Guattarian *reterritorialization*—"all the different behaviors, wants, needs and expressions of desire that have been freed from fixed codes of expression and put into the 'universal' language of the database are being recoded to recapture all these expressions in the service of capitalist accumulation" (Zwick & Knott, 2009, p. 230). Even more—it is the language of databases *about* language (and thus *thought* and the individuating essence of subjectivity itself) that constitutes this new form of capitalist accumulation. Knowing this, we can draw up a summative schema in Deleuzian terms. There exists, battling on the surface of Being:

(1) the database-you, which is a modular, functional Deleuzian "dividual", always regulated by the "numerical language of control" (or "codes"), and always standing in relation to "samples, data, markets, or '*banks*'" (Zwick & Knott, 2009, p. 229, 235; Deleuze, 1992, p. 6).

(2) a linguistic subjectivity, perennially blooming, the natural energy of which can be, and routinely is, siphoned off, manipulated, and fed-back in loops, like the programmatic scratches on an unhatched egg, urging subjugation by transformation into a full-fledged consuming-subject, which in the case of near-total control resembles a happily obedient, lackadaisically entrained dividual.

These two emerging selves—the databased dividual, and the burgeoning linguistic subjectivity—are as different as polyethylene and silky forklet-moss; that is to say, there is a genetic dissimilarity evidenced in the simple fact that one is elaborately imposed while the other naturally springs forth with spontaneity. Unfortunately, this conflict between them bends in

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favour of the impoverished, faux-individuality of the dividual when *language itself* is subsumed, with all its originary force, into the "samples, data [and] markets" that sees everywhere not people but *consumers*, and with frightening alacrity converts all consumers into a "digital assemblage" where meaning resides only in exchange value and functionality "in relation to other elements of the assemblage" (Zwick & Knott, 2009, p. 229). The existence of the linguistically powered dividual stifles the existence of linguistic subjectivities by poaching the former's *active* and *cognitive* potential for individuation via map-making the space between, in Virno's terms, the I and not-I; in fact, this flourishing is impinged upon by a new duality: a dialectic of growth between the I and database-I, between the twinned interactions of the individual and their dividual.

It is worth reinforcing once more that this paradigm of control relies entirely on exploiting "the capacities of electronic surveillance networks to follow 'free' consumers everywhere, turning the mobility of everyday life into input for the 'more diffuse and expanded systems of production that characterize post-Fordism'" (Zwick & Knott, 2009, p. 237). The principles and practices of real-time, digital modulation facilitate the exertion of control "over the mobile consumer population of the 21st century" in a way that has quite plainly never existed before. Through the smartphone, the Body of Capital has unlocked the ability to exploit the linguistic heart of individuation, turning it into a resource that, in an increasingly short span of time, alters the becoming of a subject by reterritorializing its sensory environment with unavoidable rhythms of lingually-contiguous commodity sensum, each impressing new flows of desire upon the pre-individual (Zwick & Knott, 2009, p. 236).

We now have an answer to a type of question that Tony Sampson frequently asks in *Assemblage Brain: Sense Making in Neuroculture*: what happens when a smartphone's

neurological and linguistic scaffolding "acquiesces to mediated sensory environments that coincide with neurocapitalism"? (Sampson, 2017, p. 176). Our answer is that a consumer-subjectivity is neuro-affectively teased into existence by language-informed feedback loops, and that the documents governing the smartphone's data protocols permits this by design.

It is not as if there are no provisions against this practice: it is only that they are far too assuming, far too light, and written belatedly within the enveloping geometry of the Body of Capital, which always demands—and if not, assumes—accommodation. Statement 1.58 in the GDPR document, for instance, explains that:

> "The principle of transparency requires that any information addressed to the public or to the data subject be concise, easily accessible and easy to understand, and that clear and plain language and, additionally, where appropriate, visualisation be used. Such information could be provided in electronic form, for example, when addressed to the public, through a website. This is of particular relevance in situations where the proliferation of actors and the technological complexity of practice make it difficult for the data subject to know and understand whether, by whom and for what purpose personal data relating to him or her are being collected, such as in the case of online advertising" (Official Journal of the European Union, 2016).

It is not clear whether this standard is ever met in the above documents, especially given the rampant ambiguity in a situation where, yes, precisely as the GDPR puts it, "the proliferation of actors and the technological complexity of practice" occlude the volume, variety, and purpose of personal data collection. In the following, final theme, we will look at how the term "privacy" is abused to cover up a process that is already unclear.

Theme 4: Conflation: Super Security and Privacy Pretensions

The conflation between security and privacy is rampant in both "halves" of the data corpus, and on both the Apple and Samsung sides represents an appallingly bare marketing tactic. There are two core sub-themes that define Super Security and Privacy Pretensions: I have identified these as *Type II Ambiguity* and *Protector Syndrome*. Each of these compounds the egregiousness of the practices that the prior themes highlighted by strategically misdirecting users into, ultimately, an unwarranted sense of data comfortability.

Type II Ambiguity: Conflation

Type II ambiguity (named as such to differentiate it from *Type 1* ambiguity, or vagueness, which was the first sub-theme of this chapter) is ambiguousness that focuses on the improper synonymizing of the terms "privacy" and "security". Though both terms are doubtless heteronymous, they are not identical: privacy bears a colloquial implication of the personal, of psychic space, of seclusion, and perhaps even of the possession of relative freedom. In scholarly discourse, this crucial psychological aspect is elaborated upon by addressing the social dimension of privacy. From W. A. Parent's "Privacy, Morality, and the Law" (1983), we get the novel (for the time) definition that privacy is "the condition of not having undocumented personal knowledge about one possessed by others", something which not only includes the *other* and the *personal*, but builds on (by directly stepping on top of) the social-intimate conception of privacy put forward by legal scholar Charles Fried (and others) nearly twenty years prior (Parent, 1983, p. 269, 275). This definition, while still useful in elucidating the forthcoming hypocrisies regarding "privacy" and "security", has been reinterpreted by recent scholars too. Helen Nissembaum, in her book "Technology, Policy, and the Integrity of Social Life" (2010) openly rejects any normative descriptions of privacy, yet speaks of it primarily in

relation to technological and social tensions surrounding one's "personal information flow", and the "frustration, fear, anxiety" accompanying that flow in the internet age (Nissenbaum, 2010, p. 4, 78). This, for me, suggests a fluid psychological conception of privacy. The nuances of the term go far deeper than this, to be sure, but for our present analysis we will take a Nissenbaumian influence and let it refer to a kind of internal informational autonomy, sustained by a psychological cloud of unknowing that encircles the subject.

Security, on the other hand, has quite a different set of connotations (and denotations, I contend) in both phatic speech and printed English vulgate. Security involves protection from external harassment, theft, or as Samsung Galaxy's "Knox" briefing puts it, from an "uncertain world filled with looming threats and security breaches" (Samsung Galaxy Security Levant, 2020). It is the breach, the attack, the cyber-theft that security refers to, and not the psychological atmosphere of privacy. The deliberate conflation of privacy and security, in the full breadth of the quote above, reads as such in the first data extract:

Table 8		
Type II Ambiguity: Conflation		
#	*Samsung Document Extract*	*Coded For*
1	"We've spent years perfecting our Knox **security** platform to **provide privacy** you can trust in an uncertain world filled with **looming threats and security breaches**" (Samsung Galaxy Security Levant, 2020)	• Conflation • Privacy / Security • Rhetoric / Fear

It is very subtle, but "security platform to provide privacy" betrays a certain corporate sentiment, a bureaucratically fashioned attitude towards privacy. By positioning themselves *with us* in the interior world of privacy, and contrasting that with the risk-filled (how high this risk actually is, they fail to mention) external world, Samsung makes it so the terms "security" and

"privacy" cover the same surface, and are no longer heteronymous but synonymous. Such an arrangement dismisses outright, by relocating the smartphone manufacturer *within* the circle of security and protection, data transfer and brokerage processes that (as the prior three analyses show) are in fact intrinsic to smartphone operation itself, and not just to extrinsic, would-be invaders. This is a clever manoeuvre on their part, exemplified over almost all the articles mentioning security in this data corpus. The following are a few choice examples:

Table 9

Type II Ambiguity: Conflation …Continued

#	Samsung Document Extract	Coded For
2	"**Secure Folder** creates a separate encrypted space to store your data, meaning only you have access to the **most private parts of your phone**" (Samsung Galaxy Security Levant, 2020, p. 6).	• Conflation • Privacy / Security • Rhetoric / Fear
3	"Knox & **Privacy**: the protection of your personal data is supported by industry-leading **security**" (Samsung "Our approach to privacy", 2020, p. 3).	• Conflation • Privacy / Security • Rhetoric / Fear

#	Apple Document Extract	Coded For
1	"**Privacy is a fundamental human right**. At Apple, it's also one of **our core values**" (Apple Web Page "Privacy" Statement, 2020g, p. 1).	• Privacy • Appeal to Values
2	"Apple is committed to helping protect customers with **leading privacy and security technologies** that are designed to **safeguard personal information**" (Safari Privacy Overview, 2020, p. 12).	• Conflation • Privacy / Security • Appeal to Values
3	"**Without security protections, there is no privacy**" (Apple Generic "We're committed to protecting your data" Privacy Notice Disclosure, 2020, p. 48).	• Conflation • Privacy / Security • Appeal to Values

In reality, the terms "privacy" and "security" are anisotropic, or two different measurements applied to the same object: an iPad, let's say, can be highly secure from hacker intrusion but designed exclusively for public use; conversely, a laptop may be private, in that only one person knows of its existence and is its sole operator, yet may insecurely leak password

data whenever it connects to a Tim Horton's WiFi hotspot. Ambiguity between the two terms is the largest contributor to the not-just-nominal conflation between the two concepts on a broad semantic level in smartphone marketing. It masks language data capture and processing by reframing data risks to exclude internal operations. This is made worse by our second sub-theme, which does its best to reinforce this conflation.

Protector Syndrome

Protector Syndrome describes the overwhelming rhetorical slide towards language insisting that smartphone manufacturers are our protectors in a hostile world. The idea that only with corporate protection we are truly "private" and "secure" in our dangerous lives, or that our security and privacy require constant and unimaginable upkeep from benevolent smartphone manufacturers, is a dominant theme in the data corpus. It is important to note, however, in light of the language capture apparatuses described earlier, the deceptiveness involved in Samsung and Apple's insistence on *emotionally orienting* themselves as allied with users in a fight against a fearful outside world—a fear that is predicated more on an appreciation of the average smartphone user's ignorance concerning mobile security than it is on the presentation of pertinent data-breach statistics or professional smartphone data-leak risk assessments.

Table 10		
Protector Syndrome		
#	*Samsung Document Extract*	*Coded For*
1	"Your smartphone is an **essential part of your life**, but **you're only human**" (Samsung Galaxy Security Levant, 2020, p. 10).	- Protector Syndrome - Security - Fear
2	"And **as threats to security evolve**, so will we. We're constantly innovating to meet the challenges of the future head on. Because no matter what's ahead, **we will be ready to protect your digital world**" (Samsung Galaxy Security Levant, 2020, p. 2).	- Protector Syndrome - Security - Fear

3	"**We protect** what matters in here" (Samsung Galaxy Security Levant, 2020, p. 3).	• Protector Syndrome • Security
4	"With our innovative biometric authentication technology, including Face Recognition and Ultrasonic Fingerprint, **access to your data can be protected** […]" (Samsung Galaxy Security Levant, 2020, p. 4).	• Protector Syndrome • Security • Personal Data
5	"**Security for every threat**" (Android Enterprise Security document, 2020, p. 1)	• Protector Syndrome • Security • Personal Data
#	*Apple Document Extract*	*Coded For*
1	"We design Apple products to **protect** your privacy and give you control over your information. **It's not always easy. But that's the kind of innovation we believe in**"	• Protector Syndrome • Personal Information
2	"We're committed to **protecting your data** […] we are **constantly working on new ways** to keep your personal information **safe**" (Apple Generic "We're committed to protecting your data" Privacy Notice Disclosure, 2020, p. 1)	• Protector Syndrome • Security • Personal Data
3	"We build safeguards into our products to **protect your privacy**" (Apple "Approach to Privacy", 2019b, p. 2).	• Protector Syndrome • Security • Safety • Privacy

Apple tones down the militaristic usage of the verb "protect" to instead boast, in much fluffier language, about just how well they protect user data, choosing to frame it is part of their innovative, always-working effort to uphold your privacy (which, as we've seen in the three earlier themes, they routinely and surreptitiously undermine). Samsung's extracts focus instead on the presence of undefined "threats" which, touting their facial recognition and fingerprint technology, can help you "meet the challenges of the future head on", because "you're only human" (Samsung Galaxy Security Levant, 2020, p. 2, 10). The sense of exterior fear is stronger in their documents, but well across both, one thing is clear: smartphone manufacturers want users to feel vulnerable and to know that their phones are there to protect their unspecific, undetermined vulnerabilities.

Conclusion

This content analysis has revealed three things. The first revelation concerns the written stylistics of Samsung and Apple user agreements, privacy policies, and data protocols. The second addresses the language-data collection processes of the Samsung Galaxy S10 and Apple iPhone 11 smartphones themselves. The third and final finding is a synthesis of these two: how the form *and* content (though this is not a strict hylomorphism) of the user agreements analyzed permit language capture while also obscuring the scope and frequency of its occurrence on each of these devices.

It can now be stated will full confidence that language data, specifically, in both smartphones, is routinely and automatically subsumed under larger, fuzzy-bordered categories like "personal data", after which they are absorbed into databases belonging to undisclosed third-parties with differing data obligations, which then, under the guise of "personalization", and under threat of limited service should one painstakingly opt-out of each and every collection system, participate in the ad-based crafting of a consumer subject. This all happens within the framing of a repetitious "privacy" and "security" rhetoric that coolly disdains to first distract and then comfort users with promises of protection from extraneous threats to their data.

Despite minor discrepancies in the formality of data protocols, and Apple's misleading claims of "differential privacy", I found no fundamental difference between the two phones when considering the judgement of whether or not they are sites of language capture that act as points of commissure between linguistically active users and the language industry with its surveillance, transfer, databasing, and brokerage apparatuses (Apple "Approach To Privacy", 2019b, p. 2).

As I attempted to demonstrate as the content analysis flowed onwards, the worldview changing, *metanoiac* potentiality of the enunciative act—of language itself—is routinely hijacked and redirected to manufacture audiences of dividuals instead of solely nurturing pre-individual linguistic subjectivities. This redirection later provides the Deleuzian *scanning-assemblage-brain-subject* with interferences, fields of sensum, or flows of desire with the aim of encoding them on the individual, reterritorializing their desire according to the dictation of the Body of Capital. In this system, language is made productive and turned into a source of immaterial labour that, were we to seek a material component, would amount to brain power and the movement of thumbs. The smartphone hides an automatic chain of interactions, all of them database dependent, that enable this system. All of this coincides, as well, with a system of neurological entrainment that occupies the same circuits of behaviour and control, as well as the same hardware real estate. This makes smartphones the embryonic technology of neurocapitalism, capable of holding still its subjects via entrainment so that it may more easily absorb their language and transcribe in its place artificial and modulating currents of desire which seek to bring into being legions of docile dividuals.

Chapter VI—Discussion and Conclusion
Final Reflections and Limitations

This thesis has tried to concretely visualize the semi-invisible topology of smartphones: their implicit connection to people, brains, thumbs, and consciousnesses, as well as databases, institutions, and corporations. One portion of this visualization involves what *smartphones* are known to do to "brains" and the subjects who house them; the next portion involves what *language* is known to do to these same subjects; finally, the thematic content analysis completes the image by outlining the dominant rapport between *language* and *smartphones*. The coming together of these theoretical sketches results in a vivid new image of the smartphone, but one that depends upon a specific understanding of brains, subjects, and language that required variegated theoretical digressions and philosophical combinations, each resulting in a different set of concepts corresponding to the crucial axes of this new smartphone topology.

The first excursus fused Norbert Wiener's traditional cybernetic views of the human brain with Gilbert Simondon's philosophy of technicity, or of pre-individual becoming, resulting in a Deleuzian *scanning-assemblage-brain* schema. This schema (supported by thinkers working on similar lines, like Tony D. Sampson, and by a survey of clinical neuropsychology relating to smartphone addiction), mapped the surface of the brain-smartphone relation. The specific 'brainoidal' subject that the *scanning-assemblage-brain* schema described then interfaced neatly with, of course, Deleuzian philosophy of language—but also with Jaynesian arche-linguistic psychology, which almost identically viewed language as that which habituates thought and internally organizes our world and ourselves. This meeting of two schools enabled the advancement of a theory of linguistic primacy that predominates the entire thesis.

Bridging these two theoretical components would crucially allow the establishment of the conjoined nature of neurological entrainment and language capture, representing *one* grander process, and one interactive whole. But before doing so, I utilized the structure afforded by the bridge to language to map the smartphone-language relation as clearly as possible in relation to many pertinent schools of contemporary philosophy of language, which in this thesis were divided into two poles: one belonging to the post-*Operaismo* school, represented primarily by Paolo Virno, and the other belonging to the so-called new German school, represented by Armen Avanessian and Anke Hennig. These thinkers helped colour in the importance of language to our forms of life (our cognition, our subjectivities, our worldviews) and the perversity of language economies (immaterial labour, abuse of the linguistic commons). All that remained after setting in place this immense theoretical scaffolding was proof that language capture is *native* to smartphone functionality, for which I dug into the documents describing in monotonous detail how smartphones absorb data, which data is language data, and what happens to said data after it is absorbed. The findings that answered these questions spoke to four broader themes about smartphone language data collection. Briefly, these themes were: (1) personal data as always language data; (2) third-party inclusivity, including database privileges; (3) the redeployment of absorbed data to modulate, first in databases, and then in oxygenated life, consumer behaviour so as to encourage, through one's own language, subjectivities that coincide with neuro-capitalistic circuits of control; (4) deliberate conflations of privacy and security to dismiss intra-smartphone data collection concerns as trivial compared to unidentified and unquantified external intruders.

These four dominant themes of the user agreements, data protocols, and privacy documents pertaining to the Samsung Galaxy S10 and Apple iPhone 11 strongly indicate their role in the linguistic half of a topology describing neuro-linguistic entrainment. This system,

while here concentrated to the site of the smartphone, typifies, as I have tried to argue, the general tendencies of technologies under hypercapitalism. The thematic content analysis—specifically the modality and final factuality of the practice of language absorption and commodification—validates earlier claims made about the language capture process itself; viz., that it is a fundamental part of the base functioning of smartphones, as evidenced by its consistent inscription on the device's operational literature. This empirically establishes the existence of widespread lingual divestment at the site of the smartphone and its involvement in the commercial activities of the larger language economy. This also importantly calls into question the regular exercise of simulational control using language data gathered by the smartphone, and whether, according to the philosophies of language unpacked in Chapter II, this has effects on consumer-subjectivity formation and worldview mutation. I contend that through the lenses of Deleuzian de-/re-territorialization of language and Avenessian and Hennig's principle of textual metanoia, these databased simulations, at the very least, lead to a level of valuation and mobilization commensurate with the assumption that they exert a considerable, yet subtle and hovering, control over the users whose language they steal away. Penultimately, the main findings of this study prompt us to consider what it means for all smartphone users to be unwitting participants in immaterial labour, and what possible remedies exist for such a predicament.

Lastly, and most crucially, the confirmation of language divestment as a smartphone-centric process allows it to be sublated alongside the only other cycle present in the same space and time on the smartphone screen: the preestablished process of neurological affect, or entrainment. The assimilation of these two processes into the larger entity "neuro-linguistic entrainment" reframes the smartphone as a location where both attentions and language inputs

prove profitable for entities other than the user, and where the user is actively shaped or subjectivized—psycho-linguistically—through constant invasions and outvasions, or deterritorializations and reterritorializations, of their language. While the efficiency of this process remains somewhat opaque, the commitments made to it by large smartphone manufacturers, along with its well-known profitability, indicate that the smartphone should be thought of as a technology that *simultaneously facilitates* attentive entrainments and linguistic divestments, and that both of these sub-processes, by reinforcing each other[15], share a teleological unity: to fluidly transform hoarded personal language data into behavioural control in a manner that is, in the history of technology, unprecedented.

Limitations

The most important limitation in this study was the absence of human subjects. Had they been included (as they would be in future research) could provide an additional empirical layer. One possibility is to select human subjects within certain demographics, and monitor the recurrence of their exposure to marketing campaigns that are contiguous with their language use on smartphones, and from those measurements assess the speed and effectiveness of any behavioural modifications resulting from the processes described by this thesis.

Other minor pragmatic limitations include the North American focus and the lack of robust advertisement analysis to contrast the very public depictions of smartphones on billboards and television screens with the reality of their daily operations (although initially considered, this proved to be somewhat unnecessary given both the amount of slogan-wielding in the data

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[15]Sustained attentions at the site of language capture (the smartphone) promote further linguistic input which itself improves the efficaciousness of entrainment through the continued refinement of one's database dividual.

documents and webpages analyzed, and the ever-narrowing scope of this study as writing

began).

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