Historicizing Floridi: The Question of Method, the State of the Profession, and the Timeliness of Floridi's Philosophy of Information

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> "A philosophy that is not timely but timeless is not a *philosophia perennis*, which unreasonably claims unbounded validity over past and future intellectual positions, but a stagnant philosophy, unable to contribute, keep track of, and interact with, the cultural evolution that philosophical reflection itself has helped to bring about, and hence to flourish."
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> (Floridi, 2011, p. 12)

1. *A Provocation*

There once was a philosopher not to be named[1], who betrayed his teacher and in so doing made a mess of "the profession." This master remarked that no great philosopher was wrong, but that each reported on how we stood in relation to being during his historical epoch. While naming him may lead to immediate dismissal, he nonetheless stirred the pot and in so doing tried to revitalize a profession that was *languishing* in his midst. This man was no relativist, but one who sought only to make philosophy relevant again. For what could make the history of philosophy more relevant than to read it as a record of human transformation rather than a competition to find the one truth that could stand still for all time? That man was part poet, part philosopher, part provocateur; and with that insight, he managed to uncover more than most previous philosophers covered over in a lifetime. Those who know him already know of whom I speak; those who don't will already be harboring suspicions.

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[1] I am here heeding the advice of John Haugeland, who once told me privately to refer to this man only as "the master".

What does this Kierkegaardian invocation have to do with Luciano Floridi's *The Philosophy of Information*? To start, it suggests three things of importance about philosophy, namely, that any philosophy of import – and let us not forget that those with no import are also not remembered – 1) is embodied in the ethos of a time and 2) set to answer questions that are pressing for its day. Consequently, 3) genuine philosophy changes over time. If it does not, it gets stuck in sedimented thought, bickers over trivialities, risks irrelevance and loses its ability to transform the world. It would be no mere opinion to suggest that institutionalized philosophy currently finds itself in this very boat. We who work in the profession may love what we do, but to those outside the ivory tower, talk of twin earth, zombies, swamp men and doppelgängers sounds no more or less legitimate than talk of phenomenological reductions, hermeneutic readings, and postmodern eschatology. Even within the academy the same can often be said for some scholars in our own discipline and most in the others. Yet, many philosophers from both sides of the divide seem to think that our disciplinary problems can be solved by one decree: "Stupid people out!" With this in mind, institutional philosophy should not lament its inability to address the world, given that it has so adamantly insisted on it.

Still, the situation may not be as dismal as it might first seem. We've been in this boat before, and, besides, philosophy still thrives in the interstices of (or in relation with) other disciplines where there is real work to be done. Good examples are visible in conjunction with ethics, cognitive science, and the integrated study of the history and philosophy of science more generally. We may therefore hold out the hope that the relevant and timely philosophy on the sidelines might find itself once again in the middle of game. To be sure, it's not too late, but we may have to work to make it so.

2. *On the Structure of Philosophical Revolutions (Briefly)*

Just as there are scientific revolutions, so too are there philosophical ones, though, so far as I know, a recent analysis of the "structure of philosophical revolutions" taking into account the current state of the profession, along with an enumeration of pertinent catalysts for philosophical change, has yet to be fully worked out. If we are to address the current philosophical "crisis" (literally, "turning point") in any fruitful way, perhaps the time is right for

just such an investigation. Section 1.4 of Floridi's recent book heads in this direction, though his comments must be scant (as they are), since his book pursues another agenda, and this digress on philosophical change is set to a particular task. Nonetheless, in what follows, I will briefly outline Floridi's views and then broaden them slightly to suggest a more historicized, information-technological perspective on philosophical change than he articulates here.

Floridi addresses his comments under the name of the "dialectic of reflection" (p. 7). Though citing analytic sources and appearing in an analytic book, the theory also has a bit of a continental ring to it, which, as I will emphasize later, is a benefit and not a deficit in Floridi's overall work. Crossing this great philosophical divide must be seen as an achievement in this day and age, as others (e.g., Haugeland 1998, Clark 1996, Gallagher and Zahavi 2007, etc.) have also realized. The seeds of his theory are aptly sketched in a single paragraph: "In order to emerge and flourish, the mind needs to make sense of its environment by continuously investing data ... with meaning. Mental life is thus the result of a successful reaction to a primary *horror vacui semantici*: meaningless (in the non-existentialist sense of 'not-yet-meaningful') chaos threatens to tear the Self asunder, to drown it in an alienating otherness perceived by the Self as nothingness, and this primordial dread of annihilation urges the Self to go on filling any semantically empty space with whatever meaning the Self can muster, as successfully as the cluster of contextual constraints, affordances, and the development of culture permit. This giving meaning to, and making sense of reality (semanticization of Being), or reaction of the Self to the non-Self (to phrase it in Fichtean terms), consists in the inheritance and further elaboration, maintenance, and refinement of factual narratives: personal identity, ordinary experience, community ethos, family values, scientific theories, common-sense-constituting beliefs, and so forth. These are logically and contextually, and hence sometimes fully, constrained and constantly challenged both by the data that they need to accommodate and explain and by the reasons why they are developed. Ideally, the evolution of this process tends towards an ever-changing, richer, and robust framing of the world." (pp. 7-8)

A careful examination of this passage indicates a theory of philosophical development, *not of a continual string of new beginnings*, since there are both constraining influences that hold back the flow of ideas *and* historical momentum that pushes it forward. Yet, as Floridi, notes, new philosophies cannot move too quickly or they risk being dismissed; at the same time, they must move to stay relevant.

The negative component of this dialectic (negative only in the sense that it restrains) "consists in the inheritance ... of factual narratives." Putting aside for the moment that data also constrain, the positive component consists in the fact that old ideas, theories, methods, etc., are "constantly challenged" by new data, agendas, and paradigms. To cite an obvious example, we may consider the case of Descartes. Changes in science since the 17th Century and shifting theological ideologies mean that we cannot simply lift Descartes out of his place in time and set him competitively next to the contemporary philosopher. He is bound to lose, and it is easy to see why, once we remember that Descartes could no more identify the nervous system as electrochemical before the discoveries of Galvani (1737-1798) and Dalton (1766-1844) any more than he could have contextualized his thoughts on the relationship between mind and body in the context of contemporary neuroscience. Yet, and this should *not* be underestimated, contemporary philosophy owes a debt to Descartes for helping to establish the very framework in which contemporary questions are asked. It is doubtful that we could have found our way from Aquinas to now without his engagement with the ideas of his time, (and, to be sure, we would never have made it from Plato to Aquinas without Aquinas' engagement with the ideas of *his* time.)

To summarize the dialectic, then, old philosophical frameworks try to accommodate new data in light of new agendas and paradigms and this, in turn, forces them to innovate. They bend and sometimes break, allowing space for new (but not entirely novel) ideas. However, as with other disciplines and, indeed, other facets of technological and social development, this movement across history is not constant. Sometimes it moves by leaps and bounds; sometimes it seems to stop almost completely. Floridi refers to these periods of slow philosophical development as "scholasticism," described as "institutionalised philosophy at its worst." "It manifests itself as a pedantic and often intolerant adherence to some discourse (teachings, methods, values, viewpoints, canons of authors, positions, theories, or selections of problems etc.), set by a particular group (a philosopher, a school of thought, a movement, a trend, a fashion), at the expense of other alternatives, which are ignored or opposed. It fixes, as permanently and objectively as possible, a toolbox of philosophical concepts and vocabulary suitable for standardizing its discourse (its special *isms*) and the research agenda of the community. In this way, scholasticism favours the professionalization of philosophy: scholastics are 'lovers' who detest the idea of being *amateurs* and wish to become profes-

sional." (p. 9) "To be sure, the choice of the term "scholasticism" is not accidental, (nor is the irony of wanting to be a "lover" who detests being an "amateur"). Though "scholasticism" is not meant here to refer to the late Medieval period of philosophy regarding content, it nonetheless does so regarding the structure of philosophical revolution. Again, one need only consider Descartes' battle with the historical Scholastics (this time with a capital "S") in light of the case of Galileo. The problem of that day was to square philosophy with newly available scientific discoveries unearthed by new methods without moving so quickly as to be condemned. In so doing, Descartes and his contemporaries broke free from philosophical deadlock in an age in which dissenters were dismissed as heretics to allow philosophy to flourish again in the climate of the Enlightenment, as indeed it did. There is, indeed, something truly "modern" about Modern Philosophy, particularly in contrast to Medieval Scholasticism, which is perhaps best characterized as sedimented and theologized Greek philosophy. Fairly, one could say that for this very reason philosophy departments cannot get by without a course on Early Modern Philosophy and yet feel quite comfortable leaving out Medieval.

Though Floridi notes that "once scholasticism is closed in upon itself, its main purpose becomes quite naturally the perpetuation of its own discourse, transforming itself into academic strategy" (p. 10), he nonetheless acknowledges its inevitability. "Any stage in the semanticization of Being is destined to be initially innovative if not disruptive, to establish itself as a specific dominant paradigm, and hence to become fixed and increasingly rigid, further reinforcing itself, until it finally acquires an intolerant stance towards alternative conceptual innovations, and so becomes incapable of dealing with the ever-changing intellectual environment that it helped to create and mould. In this sense, every intellectual movement generates the conditions of its own senescence and replacement." (p. 10)

New philosophies are, in other words, destined to become old, as they sow the seeds for their own destruction. In their pure decontextualized and ahistorical form, they belong to the museum of antiquities, nonetheless important for the seeds that they have sown and the history of human thought that they record.

The question put before us, then, in this section of Floridi's book is whether contemporary philosophy is currently in this predicament, that is, whether it has become "scholastic," and whether it is time to jar it loose. Given the placement of this section in *The Philosophy of Information*, one would rightfully guess that Floridi's answer is yes, and, again, when we look

at the current state of institutional philosophy in light of the world's problems, we might (should?) be inclined to agree. But is he right about philosophical revolution, and if so, what has changed that could precipitate a revolution at this time? I will address the second question first.

3. *Some Catalysts for Change in the Climate of Ideas*

There are two positive forces that lead to philosophical innovation on Floridi's view, both external to the philosophical system itself: "the substantial novelties in the environment of the conceptual system, occurring also as a result of the semantic work done by the old paradigm itself; and the appearance of an innovative paradigm, capable of dealing with them more successfully, and thus of disentangling the conceptual system from its stagnation" (p. 11). Though Floridi doesn't mention it, both were a part of freeing Modern Philosophy from the clutches of Scholasticism, traditionally conceived. They are explicitly acknowledged by Descartes, who attempted to design a philosophical method along the lines of a *mathesis universalis* in his *Rules for the Direction of the Mind* (1628/1985). Mathematical methods were making good progress at the time, thereby introducing a new foundation for a philosophical method which he thought could be applied to old questions to forge answers consonant with a new science. In so doing, he inaugurated new paradigms in both metaphysics and epistemology. Spinoza and Leibniz both followed in the wake of this mathematization of philosophical method, which is still apparent in contemporary views on logic-based inference today. Theological reformation in the background, particularly regarding the priority of reason over faith, a subtle inversion of the commitment of faith over reason that grounded Medieval theology in reason without losing its mystery, also played a role in opening the space of philosophical inquiry. This is easily seen in the fact that Descartes was Catholic (though the strength of his commitment is a matter of some debate), but not the Jewish Spinoza and Lutheran Leibniz, who nonetheless could be mainstream players in the context of minor (Catholic) background players whose names we know but speak of only rarely, e.g., Mersenne, Arnauld and Gassendi. This "mathematical turn" in the 17th Century accounts in part for the arrival of analytic philosophy, which will do its work and sediment in time in opposition to that other strand prominent in the modern philosophical climate, continental philosophy.

Both analytic and continental philosophy stem from the same sources, the methods, metaphysics and epistemology of Descartes, as two children from one parent. In the case of continental philosophy, the notion that philosophy could start with introspection and use reason to reverse engineer its way back to some external world that was hiding (fictively, for Hume) behind our perceptions inaugurated a new set of questions. Transcendental philosophy began this way as a description of experience from "inside". Lawhead (2001) and Deibert (1997) attribute this maneuver and others like it – Francis Bacon's optimism about method, for instance – to a kind of epistemic protestantism that, like its religious counterpart, promised individual access to the truth over and above the dogmatics of inherited tradition. Such a view is immediately apparent in the opening passages of Descartes' *Meditations on First Philosophy* (1641/1984) and perhaps finds its greatest expression in the grand philosophical architecture of Kant. It too will sediment in time, as transcendental philosophy (via Husserl) tries to rescue itself from the threat of psychologism (another external pressure from the emerging science of psychology) and make philosophy an "exact science."

Other catalysts for this division go back further to the socio-political transformations of the 19th century as the modern states that emerged in the Enlightenment underwent their own evolution, giving rise to a new politic and a new global (for its time) awareness that would make philosophy a cosmopolitan affair creating the camps as we know them today, French and German philosophy against British and American. That we've been caught in this divide for more than a century now is surely a sign that we are in another epoch of "scholasticism" and are confronting another opportunity for philosophy to wrench itself free from arcane irrelevance and speak to the world again. But why now?

New positive forces are, according to Floridi, present on the scene inviting a re-appropriation of the philosophical enterprise. "Nowadays, the pulling force of innovation is represented by the complex world of information and communication phenomena, their corresponding sciences and technologies and the new environments, social life, existential and cultural issues that they have brought about. This is why [the philosophy of information] can present itself as an innovative paradigm" (p. 12). These external forces cannot be ignored, due to their magnitude and their sudden acceleration. As Floridi notes elsewhere: "To have some simple, quantitative measure of the transformations experienced by our generation, consider the following findings. In a recent study, researchers at Berkeley's School of Information Management and

Systems estimated that humanity had accumulated approximately 12 exabytes of data in the course of its entire history until the commodification of computers, but that it had produced more than 5 exabytes of data just in 2002: 'print, film, magnetic, and optical storage media produced about 5 exabytes of new information in 2002. Ninety-two percent of the new information was stored on magnetic media, mostly in hard disks. [...] Five exabytes of information is equivalent in size to the information contained in 37,000 new libraries the size of the Library of Congress book collections' (Lyman and Varian [2003]). In 2002, this was almost 800 MB of recorded data produced per person. It is like saying that every newborn baby came into the world with a burden of 30 feet of books, the equivalent of 800 MB of data on paper. This exponential escalation has been relentless: 'between 2006 and 2010 [...] the digital universe will increase more than six fold from 161 exabytes to 988 exabytes.'" (2009, p. 154)

These numbers are impressive, but those of us over the age of forty scarcely need them. We need only look around at the ubiquity of information and communications technologies and the sheer size of a world-wide web that has yet to enter its third decade. (Indeed, in my childhood the cell phone was a distant technology for the 23rd-century world of *Star Trek*.) In addition, it is worth pointing out changes in the socio-political landscape as well: Facebook, for instance, created only seven years ago in 2004, is nearing 800 million members, making it the third largest civic organization on the planet after India and China *and* the largest social science database ever compiled in the history of the world! There can be no doubt that we are in a period of geometrically-accelerating change creating new problems for philosophy – some pressing to the point of concerning the viability, meaning and identity of our species – and new methods for addressing them. One would have to be an ostrich with his head in the sand not to see this fact. So, on this point, Floridi seems to be correct. Furthermore, the situation is desperate for the discipline of philosophy, but much more so for the preservation of a world (ecosphere *and* infosphere) that needs philosophers (not reactionaries) now more than ever.

In light of the above, Floridi suggests that the time is right to learn from new paradigms and see where they may take us when addressing philosophical problems. Just as Descartes adopted mathematics as a model of inquiry, Floridi adopts the notion of Levels of Abstraction (LoAs) from object-oriented programming in computer science and transforms it into the founda-

tions of an information-based philosophical method. After laying out the "open questions in the philosophy of information" in Chapter Two of his book, he then presents the method in Chapter Three and then addresses several outstanding philosophical problems to attempt solutions within a new informational paradigm. It is not my purpose here to comment on the book as a whole or assess whether the initiative is successful; that work will be left to other venues (Beavers 2013a, 2013b). I will comment, however, in the section after next about Floridi's method in general, how it synthesizes both analytic and continental tendencies and why it (along with the notion of philosophical change more broadly) does not entail relativism.

4. *Entanglements with Information and Technology*

Before continuing with the above task, however, I wish to offer some of my own thoughts respecting the context for philosophical revolution that I believe supplement Floridi's theory above. Without going so far as to suggest that "the medium is the message" (McLuhan 1964/1994, p. 7), I wish to risk anachronism and cast philosophical transformation against the backdrop of changes in information technology. Such a move is justified for several reasons. One is that while we currently claim "the information age" as the appellation of the day, information has always been a part of human experience, even if we were not explicitly aware of it. Though, according to contemporary usage, it may sound strange to say that the information revolution is around 5,000 years old, in geological or even evolutionary terms, this would still make it quite new. Second, there is precedent for looking at the role of developing technologies in scientific revolutions (Kuhn 1962), and since we are considering a discipline that trades in informational phenomena (i.e., ideas), it would seem appropriate to consider how informational technologies affect its development. Third, there is also philosophical precedent itself to "stand Hegel on his head" and follow Marx in examining how rearranging the material conditions of a time may affect ideational change.

In Beavers (2012), I suggested a few philosophical implications that follow from four revolutions in the history of information that may prove insightful here, even though they don't fit neatly with the same four scientific revolutions that provide the context for Floridi's immediate work on the "fourth revolution" (Floridi 2010). In this paper, I divide the history of information flow into four epochs: the 1) epigraphic, 2) printing, 3) multimedia,

and 4) digital, noting that as revolutions they always preserve something of the past and might better be thought of as waves that follow in the wake of previous technological development.

The *epigraphic revolution* is characterized by the invention of writing, an era in which temporal speech could be coded in the spatial medium of writing, thereby allowing information to cross both temporal (i.e. historical) and spatial boundaries. The *printing revolution*, starting around 1450, is characterized by the mass production of writing, an era in which writing acquired the ability to propagate quickly along different routes. The *multimedia revolution*, beginning in the 1830s, is characterized by the industrialization of information flow and the introduction of audio and visual technologies that decoupled the dissemination of information from the transportation industry. Finally, the *digital revolution*, which began with the popularization of the personal computer around 1980, inaugurated an era in which people appear in consort on an extended network intermixed with other, non-human information processors, all "inforgs" to use Floridi's term.

While there are smaller, micro-movements that can be plotted on the above trajectory as well, the enumerated revolutions are unified by a common theme, namely one of introducing new devices that allowed the flow of information to leap forward with sudden and dramatic force. Though it might be mere metaphor to say that information was destined from the start to find a way to travel as fast and far as possible, in short, to network as many minds to as many others as quickly and efficiently as possible, this has, nonetheless, been its collective effect. The history of information flow can thus be told from a networks perspective in which each era significantly rearranged the informational networks that connect people to people (and then also to machines). At first travelling by sound created by modulating wave forms with the human voice to be decoded in the mechanisms of the human ear, thereby traveling only as far as allowed by sound waves amplified by repetition and rumor mills, massive amounts of information can now jump continents and oceans in parts of a second.

While it might be too hard and fast to say that these revolutions directly caused transformations in the philosophical scene, they nonetheless coincided with important transitions in the discipline. In this regard, they are co-incidental (hyphen intended), but not in the usual arbitrary sense of the term. There is a dependence relation between them that is perhaps best articulated by noting that philosophical changes in the discipline could not have hap-

pened without technological change. Minimally, then, the latter is a necessary condition for the former. More so, however, insofar as information technological change raises new issues, produces ancillary effects in the socio-political, economic, educational, etc. climate of the day, and rearranges the playing field for all aspects of human inquiry, it is not a necessary condition solely in the limited sense that it helps to move information faster and farther. Deibert notes, for instance, that "both writing and printing favor and encourage an abstract, rational cognitive orientation by arresting the flow of oral conversation, permitting the comparison and juxtaposition of words and documents, and detaching the content of communication from place, time, and personality" (p. 84).

Such an orientation is visible in classical Greece, where the "oration" (text written to be read out loud) served to rearrange the institutions of law and, hence, community. Indeed, Cohen (1995) notes that blood feud was transposed into the Athenian court system, where battles could be fought out in argument, thereby creating a culture centered around rhetoric both for the sake of vengeance and social control. Schools of oratory grew up to teach the art of speech making (really, speech writing), the most famous of which was perhaps that of Isocrates. The sheer presence of the amount of Greek legal oratory we still possess in writing testifies to this fact. More important for the discipline of philosophy is the climate of sophistry that this created for which Plato's Academy could become an antidote. As Cohen aptly notes, "Paradoxically, what have often been viewed by modern scholars as "abuses" of Athenian legal institutions may turn out to be intimately linked to Athenian understandings of the rule of law, understandings which saw the courts not as objective discoverers of "truth," but as powerful instruments of democratic social control" (p. 9). Though talk of Plato and the sophists is the stuff of introductory classes, this clash between persuasion and truth-telling nonetheless provides the critical context for understanding Plato's corpus and perhaps justifies his skepticism over writing expressed in the *Phaedrus*. (For those unfamiliar with this text, it is worth noting that Phaedrus sets out to repeat orally a speech by the rhetorician/sophist Lysias when Socrates asks to see the actual speech in written form that Phaedrus is hiding under his coat and yet trying to recite from memory.) For the purposes of this commentary, the salient feature of this analysis is that Greek philosophy emerges in a social and political climate that has problematized the relationship between speech and writing. While not all philosophy that follows from this inception can be connected directly to this initial conflict, concerns over rhetoric, persuasion,

and the truth or falsity of argument in written form nonetheless continued well beyond Plato and culminated in the *disputations* of late Medieval Scholasticism.

To address this situation in light of Floridi's views on philosophical change, we should note that classical Greek philosophy did not emerge out of nowhere, but in light of social problems arising by confusion in the information environment of the day and that may have led, at least on a Platonic reading, to the Athenian loss of the Peloponnesian War. Philosophy began, in other words, with a pressing need to sort out the true from the false in an age where the conflation of speech and writing made this necessary. Only in such a context could it make sense for Socrates (or anyone) to ask another to "hand over a speech" (on reflection, an odd locution) for scrutiny.

Although the Enlightenment and its precursor, the Renaissance, are often referred to as "neoclassical," philosophically they were so only because of a renewed spirit of inquiry and not because they were recapitulations of Greek and Roman philosophy. To be sure, there are Platonic and Aristotelian tendencies in both the Continental Rationalists and British Empiricists, but it would be a mistake to characterize any of them as either Platonists or Aristotelians. This is due in part to the spirit of "epistemic protestantism" I mentioned earlier, which bears a direct connection to the Reformation. Both Eisenstein (1983) and Deibert (1997), along with many others, recognize the critical role of the printing press in bringing about this new cultural movement that broke the hegemony of the Roman Catholic Church thereby making room for new ideas, but other important conceptual transformations resulted from the printing press as well. The mass production of writing encouraged literacy and a new sense of personal identity. The situation is nicely summarized by Deibert: "The gradual rise of individualism as both a prevailing symbolic form and a predominant moral idea flourished in the printing environment. The mass production of printed material favored newly circulating notions of authorship, copyright, and individual subjectivity, while the portability of printed books facilitated the trend toward silent, private reading and intellectual isolation and reflection." (p. 100)

Furthermore, by quickly circulating texts in the vernacular, the revolution in printing contributed to the rise of the modern nation state and a new sense of national identity. Political treatises on how best to run a state emerged in record number. Machiavelli, Rousseau and Locke are worthy examples of people who reinvented social and political philosophy, each from a

different country and each with a different perspective. This cultural shift that favored text, private reading, intellectual isolation (i.e., thinking and writing on one's own) and national boundaries set the stage for the transnational *Republic of Letters* that connected intellectuals from Europe and America in a network of ideas that included the first academic professional associations and journals. Coupled with the development of mathematics and the rise of science mentioned above, the stage was well-set for radical transformations in philosophy, due in no small part to the revolution in printing.

It is easy to see how both Ancient and Early Modern Philosophy were facilitated by developments in information technology. However, the immediate relationship between informational and philosophical development is less apparent in 19th Century philosophy, partly due to the fact that as we move through history the pace of technological development increases along with philosophical development. This fact makes it more difficult to draw sharp distinctions or "breaks" between eras. In fact, it does appear that philosophical innovation flows smoothly from Kant through the 19th Century. One possible place where someone might be tempted to demarcate a post-Kantian period of scholasticism is with Hegel (a neo-Kantian, let us not forget) and the "young Hegelians" that follow. Though Karl Löwith subtitled his famous study *From Hegel to Nietzsche* as *Der revolutionäre Bruck des neunzehnten Jarbunderts* (translated as *The Revolution in 19th Century Thought*), the period can best be described as a series of reactions to Hegel, or, if one thinks of Hegel as a neo-Kantian, then as a series of reactions to Kant. The difficulty, however, in characterizing this as scholasticism is that, even though it was largely reactionary, it was, nonetheless, productive. Even so, the reaction was largely centered around a telling issue, the individual against an emerging mass society, Hegel arguing on behalf of society (on some readings) and Marx, Kierkegaard and Nietzsche (along with others) advocating for the individual that was being exploited or lost in a herd. During this particular period of philosophy it was as if philosophy was anticipating changes in information technology that would come later in the century, or perhaps better put, that society itself was providing a vacuum that would need to be filled by such technologies.

Though, as I noted above, the multimedia revolution begins in the 1830s, it doesn't really take off until the 1870s, too late for the Hegelian reactionaries to be doing there work. A brief timeline of the development of information technologies makes this clear. Some of these (along with their approximate date of invention) include: Telegraphy in 1836; The Daguerreotype in 1839;

The Telegraphic Printer in 1856; The Stock Ticker in 1863; The Telephone in 1877; The Phonograph in 1878; The Light Bulb and the Photophone in 1880; Wireless Telegraphy, Wax Cylinder Phonography and the Motion Picture Camera, all in 1891; The Rotary Telephone in 1898; Radio and Teletype in 1906; Television in 1926; Electric Phonography in 1927; and Magnetic Tape in 1928. Innovation continued into the second half of the 20th Century with Cable Television in 1948; Cassette Tape Recorders in 1958; Touch Tone Phones in 1963; Color Television in 1966; and the VCR in 1969. This timeline clearly illustrates that throughout the second half of the 19th Century and after, society was exploding into a global communications environment.

At the same time, the 19th Century witnessed rapid development in science and mathematics. It was the century of Cantor, Darwin, Doppler, Faraday, Gauss, Hertz, Helmholtz, Hilbert, Maxwell, Mendel, Mendeleev, Pavlov, and Riemann, to name but a few. As with the philosophical revolution of the Enlightenment, mathematical and scientific innovation too would be felt on the philosophical scene. However, if I am correct in the general outline of the theory I am here sketching and according to the timeline above, philosophy should not really wake up and take this into account until after around 1880, which seems to be the case.

It is always dangerous to pinpoint precise dates for historical revolution, though if the reader will permit a heuristic guess, the stage for 20th Century philosophy was largely set by a contest between Frege and Husserl, beginning with the publication of Frege's famous article "Über Sinn und Bedeutung" ("On Sense and Reference") in 1892. Though Frege and Husserl were together in attacking psychologism, they disagreed fundamentally on the nature of meaning and quibbled over several issues in the philosophy of mathematics (Hill and Haddock 2003). By the time the smoke had cleared, we had two luminaries that would inaugurate two traditions for the 20th Century, the mathematical and logical philosophy of Frege and the phenomenological philosophy of Husserl. Indeed, in this regard, Anthony Kenny calls Frege the "founder of modern analytic philosophy" (1995). Citations are scarcely necessary to posit Husserl as the father of the phenomenological method and the immediate predecessor of modern continental philosophy.

Articulated this way, tying each of these traditions to the information climate of the time is not all that difficult. As the global communications environment jumped forward in leaps and bounds, language itself became *the* problem. Questions about how words acquire and/or could carry meaning

were present in the linguistic philosophy of the early analysts, inspired by the tidiness of logic and mathematics. Here, we might consider Moore, Russell, Ayer, Wittgenstein, etc. The focus of their work was largely grounded in achieving philosophical clarity through the application of mathematical logic. On the other side of the divide, phenomenology sought its clarity through careful description of perceptual experience with a strongly imagistic rather than linguistic bent. Phenomenology is, after all, first and foremost, concerned with appearances even if the philosophy itself must be written in words. Nonetheless, as the century moved forward, the problems and perils of language and media in general became explicit themes in continental philosophy, until we reached the philosophical crisis that characterizes the very end of the last century.

It is quite difficult to paint an adequate portrait of this scene. Continental philosophy has largely become constructivist in the sense that reality is carved out by language (and media), thereby posing a problem for truth – how can there be such a thing if reality is just a narrative? That the representation has replaced the presentation has become a hallmark of postmodern philosophies in a variety of forms (and in some camps going so far as saying there are only representations!) On the other side, no one seems to know precisely what contemporary analytic philosophy is other than just good, clear thinking reigned in by logical consistency and the findings of science, in short, to risk overstatement, anything that is not continental. Either way, both of these contemporary philosophical tendencies seem to be stuck, not merely by finger pointing at each other, but by having worn out their welcome on the academic stage. After all, once one has reached the conclusion that reality is media, what is there left to say, and, on the other side, once one has decided to defer ultimately to science, then what is philosophy except philosophical guesswork and ground clearing in anticipation of genuine scientific findings. Neither is entirely helpful; and to show my cards as a self-hating philosopher, the situation is a bit embarrassing both inside and outside the academy. (Who among us can stand up at a conference of non-philosophers and pronounce himself a philosopher without risking snide comments and early dismissal?) The question that this raises here might sound cynical: is there anything left for philosophy to do, or is philosophy simply done for? But it is nonetheless pressing, as I said earlier, not so much for the discipline of philosophy itself, but for the preservation of a world that needs philosophers now more than ever.

6. *Avoiding Relativism: Informational Structural Realism*

Does the notion that philosophy must adapt with the times to remain relevant suggest some form of relativism? Can one be a constructivist and, yet, not a relativist? I believe the answer to the first question is negative and the second affirmative, and, furthermore, that Floridi shows us a way that this can be so. To see this, we need to jump from the first chapter of his book to the last. But first a paraphrased lesson from the master.

As I noted in the provocation that began this paper, this master remarked that no great philosopher was wrong, but that each reported on how we stood in relation to being during his historical epoch. Such a claim certainly sounds relativistic, but this depends on what one thinks that philosophy ought to do. So, let us consider the matter by analogy. Artists may not like art critics, each thinking that critics limit their individual creativity. And yet, an artist may legitimately be said to be "ahead of her time." This fact does not mean that the artist *should* have been accepted originally, but that the meaning carried by the work of art was irrelevant during the time in which it was created only to become relevant later, fortunately for the artist that might otherwise have been lost to history. In this way, the institution of the art critic serves to hold art back, to limit the creativity of an artist so that she can serve a social function, namely "speaking" to the people society needs her to serve. Without this counter-measure, art risks spiraling into a meaningless abyss. The same thing may be said for philosophy. On analogy with the artist, philosophy may flourish only when it has something to say, and the lessons and paradigms needed to address problems from the past may simply not matter to the problems for the future (which is not to say that we should ignore our past!). On this reading, philosophy can never end, since its job is not to establish a truth, but to inspire clear vision, to help us see what needs to be seen, to make us aware of where we stand in the broader scheme of things, to prioritize appropriately and to pose solutions to pressing social and scientific problems. In this light, philosophy is not merely pragmatic, but productive. It is according to both Blackburn (1999) and Floridi (2011) "conceptual engineering," and as such, Floridi argues that "philosophy needs to turn its attention to the new world of information" (p. 17), noting that it is not too late to make progress where progress is urgently needed.

Of course, informationally-related phenomena need to serve as the subject of philosophy, but, equally important, changes in information technologies are also offering new methods to help us address and understand these phenomena (and others). Adopting such methods is analogous to the appropriation of mathematical methods in the most productive periods of both Early Modern and Late-19th/Early-20th Century philosophy. Again, Floridi's method of choice involves the notion of Levels of Abstraction (LoAs) from object-oriented computer programming, the topic of Chapter Three of his book. It is not my intentional to describe this method fully here, but a few words about it are necessary to explain why a productive view of philosophy does not immediately entail relativism, short of simply saying that if philosophy is not about dogmatics then the question of relativism is besides the point (even though, in a manner of speaking, it is.)

LoAs are presented by Floridi as an improvement of the conceptual schemes analyzed and criticized by Davidson (1974). They are "clusters of networks of observables" and "model the world or its experience" (p. 72). As such, they function as lenses through which epistemic subjects may apprehend the world. Their employment governs the way in which we relate to the objects, states and relations we encounter. To use Floridi's example of an automobile battery: "'the battery is what provides electricity to the car' is a typical example of information elaborated at a driver's LoA. An engineer's LoA may output something like '[a] 12-volt lead-acid battery is made up of six cells, each cell producing approximately 2.1 volts', and an economist's LoA may suggest that 'a good quality car battery will cost between \$50 and \$100 and, if properly maintained, it should last five years or more'." (p. 77)

As should be clear from this case, all three examples are true for a particular purpose from a particular perspective. They are not arbitrary. That is, while there are many ways one could consider a car battery, there are many more that one could not. The claim that 'a battery is a four antlered Martian on wheels' is simply false, useless, and uninformative. Consequently, through their use, "data as *constraining affordances* – answers waiting for the relevant questions – are transformed into factual information by being processed semantically at a given LoA" (p. 77). Though a form of modified Kantianism, Floridi also notes in Humean fashion that "too often philosophical debates seem to be caused by a misconception of the LoA at which the questions should be addressed and the purpose for which they should be answered" (p. 79), though his antidote to philosophical confusion is not to find the corresponding impression, but the appropriate LoA. This gesture, in fact, is what

makes Floridian philosophy of information productive *and* constructive, while the constraint of having to fit the data allows for "pluralism without relativism" (p. 74). It is also what will allow philosophy to change and adapt to different technological frameworks and address socio-political problems as they change within history, and it also allows us to characterize Floridi's work here as a kind of "constitutional" or "constructive" continental philosophy, where constitution is the process whereby a world is made known and not ontologically constructed, reigned in by contemporary analytic approaches, since any construction is constrained by our epistemic comportment toward the data. In this latter regard, Dennett's view of real patterns that saves him from the charge of pure ascriptivism regarding the intentional stance comes to mind (1991). We see through the lenses of categories that when set to a particular use and directed toward the right data allow aspects of a world, real in the empirical sense of the term, to become clear to us. In the end, Floridi finishes with a doctrine of Informational Structural Realism "committed to the existence of a mind-independent reality addressed by and constraining our knowledge" and that "supports LoAs that carry a minimal ontological commitment in favour of the structural properties of reality" (p. 360).

7. *Conclusions and Caveats*

So, in the end, where does this leave us regarding the viability of philosophy as a relevant academic discipline in the context of its current crisis? One answer to this question is that it provides a way of keeping philosophy relevant to a particular set of problems for a particular time and place. In other words, it requires that philosophy be productive and not dogmatic, it forces us to see philosophy as a practice and not a set of doctrines, and it opens horizons for philosophers to take insights from wherever they may find them, regardless of the traditions within which they originate.

However, there is also something here of more historical (and hence also contemporary) interest. When describing his theory of philosophical change, Floridi notes, "Ideally, the evolution of this process tends towards an ever-changing, richer, and robust framing of the world" (pp. 7-8). If it weren't for the words "ever changing" here, we might be tempted to see a process that could culminate at a moment in history, but the fact that the data that constrains LoAs changes in history makes a *terminus* for philosophy impossible. More importantly, it gives us a way of comprehending the past. Indeed, if Floridi is right about philosophical change in general, then we can re-read the history of philosophy as a record of the progress and problems that humanity has faced in its struggle to find a fit between its understanding at the time and the available data of the day. If we can view this history insofar as it is affected by changes in the information technological landscape, we find, then, in Floridi's Informational Structural Realism clues for a more refined and historicized understanding of the development of the infosphere. To do so, we must read the philosophical systems of the past as LoAs and ask what are the historical circumstances that they were designed to fit. In other words, to recapitulate the philosophy of the master announced at the beginning of this essay, no great philosopher is wrong, as if philosophy were ever really about dogmatics, but each philosophy embeds a record of our progress in coping with information and the emerging communications network it enables, if read in the right way.

Space does not allow much more than an announcement of this possible project here. Nonetheless, some *caveats* are in order. To start, this commentary is sketchy at best. It is intended only to suggest a possible avenue for future research that is opened up by Floridi's book. Second, the relationship between changes in information technology and philosophy must be fully worked out before an historical reading of philosophy along the lines of In-

formational Structural Realism is possible. Third, such an investigation would have to be set to a particular purpose, since we must ask at what level of abstraction the history of philosophy should be read to complete such a project.

A partial answer to this last question is set by the pressing need to help philosophy get up to speed with transformations in the information landscape that are quickly enacting social, scientific and political change on a global scale. We find ourselves at a time in history where things are changing so fast that no analysis can keep up. Understanding where we have been is necessary to help us understand where we are headed, and if these changes are informational in nature, then we need to understand the history of information and how it affects conceptual change. We now have a method, but there is still much work to be done. We, thus, find ourselves in need of a networked community of scholars to do it.

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