Matthew Kelly
Jared Bielby *Editors*

Information Cultures in the Digital Age

A Festschrift in Honor of Rafael Capurro

Springer VS

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(Eds.)

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Editors
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Thomas Hausmanninger defended his PhD in 1992 and his habilitation in 1997. Since 1998 he has been professor for Christian social ethics at University of Augsburg, Germany. His research focuses on the foundations of ethics, information ethics, media analysis and, more recently, on comics and religion. Hausmanninger's most recent book is *Verschwörung und Religion. Aspekte der Postsäkularität in den franco-belgischen Comics* (Fink, 2013).

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Chaim Zins is a scholar, an educator, and a conceptual artist. His information science work focusing on knowledge mapping has been published in both the *Journal of the Association for Information Science and Technology* and in *Journal of Documentation*. Zins's main research projects have included: 10 Pillars of Knowledge, Knowledge Map of Information Science, Knowledge Map of Judaism (Hebrew), and the Critical Delphi research methodology. More at: http://www.success.co.il.

Foreword

Thomas J. Froehlich

While Rafael Capurro did not invent the phrase "information ethics," given the prestige, influence, growth and impact that he has created in the field, it could be argued that he is the *father* of information ethics, if such an appellation were not sexist. *Mother-father*, even if dialectically conceived, would not fare any better as it is still gender-based and dualistic, a framework with which Rafael Capurro would not find himself comfortable. Perhaps we can call him an *angel* though it might conflict with any transcultural, intercultural approach that he would espouse, unless it is derivative of his *angeletics*, his approach to a phenomenology of communication. He is certainly a messenger and the message is information ethics, but he is an ev*angel*ist as well. What makes him the *angel* or, to analogize from another tradition, the *archangel* of information ethics, is not only his own scholarly, prolific, encompassing and innovative work on information ethics and related subject matters, but his participation in so many local, regional, national and international panels and conferences, his many keynote speeches, his academic appointments, his fellowships and awards, his multitudinous publications and presentations in several languages, his creation of the *International Center for Information Ethics* (ICIE, http://icie.zkm.de/) and his commitment and devotion to information ethics. Rafael Capurro's curriculum vitae is dizzying in its length, breadth and depth: see http://www.capurro.de/. He is an evangelist not only because he spreads the good news (*euangelium*—as opposed to *disangelium,* bad news) of information ethics but also that he has inspired and encouraged hundreds of other scholars to contribute to the field, and has provided venues in which they could realize their contributions: by inviting them to participate in conferences (e.g., the South African conference), to contribute papers to the International Center for Information Ethics, especially on theme-based issues of the *International Review of Information Ethics* (IRIE, http://www.i-r-i-e.net/), etc. While he has advanced substantially in the evolution of his own thought, he has also encouraged the development of thought in the field into international ethical space, by engaging and inspiring others to pursue their own insights and contributions. Many of the contributors to this volume have undoubtedly been the recipient of Prof. Capurro's graciousness and generosity.

What is remarkable is not only his scholarly record, but his professional and personal engagement with friends, colleagues, collaborators and interlocutors. If there were ever a person on the planet who lives the categorical imperative, "Act so that you treat humanity,

whether in your own person or that of another, always as an end and never merely as a means," it is Rafael Capurro. But that is too Kantian, Rawlsian, universalistic a description, that does not speak to his personal, hermeneutic engagement. When you meet him in person, one finds that he is affable, warm, amiable, collegial, kind, gentle, charming. He is personally engaged and engaging in so many ways. In person, with a wonderful glint in his eye and in a gesture of an embracing closeness, he hovers with his interlocutor in conversation, as if sharing some intimacies in a thoughtful Platonic dialogue of mutual purpose. It is also reflected in his personalized welcoming email to new members of the ICIE. While authenticity is often an abused and thereby trivialized concept, in a foundational Heideggerian sense, one can truly say that it is characteristic of Rafael Capurro.

It is with enormous pleasure that we offer this Festschrift for Rafael Capurro to celebrate his outstanding contributions to information ethics and related fields and to show our appreciation for his engaged and engaging personhood.

Information Cultures in the Digital Age: A Festschrift in Honor of Rafael Capurro

Jared Bielby and Matthew Kelly

The following book is about information. It is also about Rafael Capurro, knowledge and ethics. The chapters contained within this Festschrift illuminate the search for the meaning of information and Capurro's influence on his two areas of expertise: information and philosophy. The relationship of information to knowledge and ethics and to broader topics associated with their cultural expression outlined in this book, either in terms of sociological or philosophical contextualization, will be familiar to many readers. The pivotal notions of library, data and digital media will, similarly, probably not be new territory nor will a reading of the concept of information as a drive to make knowledge measurable (Adriaans, 2012, para. 2) [1]. What may be new for many who have an interest in the broader information disciplines is that there is a significant social aspect that needs to be accounted for in the impact of established and digital communication on the one hand and information organization on the other. This social role is unlikely to be satisfied simply through recourse to an ontology of information based in analytical, logical or systematic approaches. Capurro's role in bringing a hermeneutical and phenomenological position to bear on information science has not been unique, but it has provided significant direction for those with an interpretive inclination to understand (and if necessary unpack) the scientific (and scientistic) approach to the information discipline.

Capurro is counted among the pioneers of information philosophy. His contributions toward bridging the various incarnations of information science with the salient questions of the digital age are well founded and interested readers are referred to his web archive for an extensive introduction to his work.[2] In honor of this work (and the person behind the keyboard), the following chapters on the study of information culture serve as a witness to aspects of the origins and the evolutions of information scholarship, encompassing in their scope the fields of library and information science, information ethics and the philosophy of information, and engaging themes as far ranging as hermeneutics, digital ontology, on-

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1   "Historically the study of the concept of information can be understood as an effort to make the extensive properties of human knowledge measurable" (Adriaans, 2012, para. 2). This book's theme acknowledges the importance of this but also that there is much still to be said for the Protagorean maxim, updated for the 21st century: "the human being is the measure of all things."

2   www.capurro.de

line privacy, access to information, intercultural information societies and the theoretical foundation to the concept of information itself. Since the late 1970s, Capurro has led the global charge toward understanding the connections between information, science, culture and philosophy. In exploring these themes Capurro has re-vivified the transcultural and intercultural expressions of how we bring an understanding of information to bear on scientific knowledge production and intermediation.

At a very basic level, Capurro's work presents a resolution to what he deems an incomplete information theory. The classical information theory, advanced in the 1940s by the mathematician Claude Shannon, was the first attempt to theoretically address the relationship between information and communication technologies. According to Capurro, Shannon's theory missed the mark in terms of a well-thought-out theory of communication. In much of his work, Capurro (2003a) strives to explain what Shannon seemingly intuitively understood, but failed to clarify, namely, that in communication between receiver and sender it is not information that is passed and received, but rather *a message*, and this message is permeated with semantic and pragmatic meaning. In developing a mathematical model for communication, Shannon attempted to separate information from the interpretation-dependent factor, neutralizing the human role in communication, looking for meaning in language and symbols as independent from how the receiver absorbs it (Capurro, 1996; Shannon & Weaver, 1949). It was the critical factor in communication that Shannon sought to eliminate, message, that Capurro sought to bring back into play. Applying hermeneutic techniques to Shannon's information theory, Capurro endeavoured to bridge the barriers of communication that classical information theory reinforced (Capurro, 2003a).

The Capurrian information project is therefore fundamentally an anthropological one. Rather than eliminating "the question of interpretation" in information theory as Shannon did (Shannon & Weaver, 1949), the question of interpretation becomes the foundational question, its origins found in "the interpretation, construction and transmission of meaning" (Capurro, 1996, Part I, para. 4). Communication is at its core, according to Capurro, a matter of hermeneutics (Capurro, 1996). In an early publication Capurro advanced the view that

> …information as a logical category is to be interpreted. This logical determining of the concept of information is, however, again, no "absolute," but a reality in each area-specific determination to be interpreted. Only such a formalized concept of information can effectively be applied to a wide variety of areas (physical, biological, educational, documentary). The question of the origin of the terms, the philosophical reflection with regard especially to the basic concepts of science, also proves to be…a necessary precondition for critical understanding of these terms. (Capurro, 1978, Part 6.2.4, para 2)

While the original concept of hermeneutics focused on the interpretation of ancient texts, modern hermeneutics has branched outward (as ontology) and now encompasses the living aspects of interpretation beyond the printed word. Working within the Heideggerian tradition, Capurro repurposes the traditional focus of philosophically-inclined hermeneutics for a digital age. Similar to Marshall McLuhan's understanding that "the medium is the message"—where the form of the medium, whether computer, radio, or hand held device is itself entrenched in the message, ensuring a synthesis of message and medium where

the medium plays an integral part in how the message is perceived (McLuhan, 1964)—Capurro demonstrates how the construction and transmission of the message is critical to its reception. Capurro notes that

> The dualism between content and medium is not feasible. It was criticized already by Plato in the dialogue "Phaidros," the first media critique in the Western tradition. Plato's paradoxical devaluation of writing with regard to spoken language (logos) shows that no media is neutral concerning the content it is supposed to transmit as well as between the relationship between sender and receiver. (Treude, 2014, Introduction, para. 2)

Capurro recognized in McLuhan a basis for a message theory that would satisfy the requirements for his vision of a comprehensive communication theory. Building on McLuhan's work, Capurro formed his own extensive version of communication theory called *angeletics*, a term denoting the Greek *angelia*, meaning "message" (Capurro & Holgate, 2011). This relationship, as Capurro notes, is yet to be surveyed in any ontological depth. Capurro states that

> The development of an anthropological information theory within the framework of hermeneutics embracing not just the interpretation but also the construction and transmission of messages is still an open task. It concerns not only information and library science but also "informatics" (or computer science). The intersection between hermeneutics and information theory means not only a transformation of the latter but also of the former seeing that traditional hermeneutics was primarily oriented towards the interpretation of the spoken word and/or printed texts. A hermeneutics of information science should also embrace the construction and transmission of messages by particularly taking into account the question of the media, as has indeed been done since Plato's criticisms of writing. In our present situation we are looking particularly for the new hermeneutic questions which arise in an electronically networked world. (Capurro, 1996, p. 2)

As noted above, such a task, though yet to be applied to the digital era, is not a novel one. Plato was well known for criticising the form of writing, and very aware of the difference in delivery between verbal and written forms. While hermeneutics does not disavow writing, it reflects the reasoning behind Plato's distrust of writing. In *The Gift of Theuth: Plato on Writing (again),* Susan Dobra states that "Plato fairly clearly and in non-dramatic form, disavows writing as a valid form for communicating ideas. He distinguishes five levels of distance between the word for a thing and true understanding of its perfect form" (2013, para. 12). The five levels that stand between truth and the written word include from first to fifth: name, definition, representation, and knowledge, with the fifth level, truth, being only attainable upon the totality of the others (Dobra, 2013). Plato states that unless "a man somehow or other grasps the four of these, he will never perfectly acquire knowledge of the fifth. Moreover, these four attempt to express the quality of each object no less than its real essence, owing to the weakness inherent in language" (Plato, 1929, p. 535, Ep. VII. 342e). Additionally, Socrates, the mouthpiece for many of Plato's opinions, confirms in the *Phaedrus* that "He who thinks, then, that he has left behind him any art in writing, and he who receives it in the belief that anything in writing will be clear and certain, would be

an utterly simple person" (Plato, 1914, p. 565, Phaedrus 275c). While hermeneutics does not disparage the written word as Plato does, it recognizes the limitations of the word as carrying truth outside of the process of interpretation, a process that could be likened to Plato's five levels of knowledge.

Capurro's multifaceted addressal of the problem of defining the concept of information, potentially toward a unified theory of information, has led to a logical trilemma, or, as Wolfgang Hofkirchner and Peter Fleissner call it, "Capurro's Trilemma" (Capurro, Fleissner, & Hofkirchner, 1997), a trifold comparison and contrast of the various ways of defining information and the implications that each definition imply for the other. While each unique definition of information stands apart from the others, they are all at the same time informed by the other, existing in a kind of paradox whereby each definition both negates and at the same time is reliant on the others for actuality. Bawden and Robinson address the complexity of the trilemma in their chapter included in this volume, *Super-Science, Fundamental Dimension, Way of Being*. The trilemma defines information in three ways: univocity (the concept of information has the same meaning in all contexts), analogy (the concept of information has an original meaning in a specific context, and is applied as an analogy in other domains) and equivocity (the concept of information has different, but equally valid, meanings in different contexts). The differences are significant, especially when defining information in terms of communication since, as Capurro notes,

> Information is a category of solely psychic systems, it is a system-internal property that is not transferred, whereas communication means to open, on the basis of information (or meaning) a horizon of choices for other persons. Pure communication and pure information are at opposite ends of the spectrum. (Capurro, 1997, p. 1)

Two ways of addressing Capurro's Trilemma set the stage for looking at a unified theory. The first way looks to what Capurro calls a dialectical informatism (Capurro, 1997)—an either/or focus that builds from and expands on the analogy-meaning of information, where the original definition of information as "giving form"[3] sets the foundation for an evolutionary process where new potentialities and finalities materialize in a dialectical process. The second way builds off of and expands on the equivocity-meaning of information where different but equally valid meanings interact in a networked scenario (Capurro, 1997), each meaning existing apart from and fully serviceable on it own terms, but also reflecting and interacting (and thus being informed by) others. Where the former (dialectical) harkens back to a type of Hegelian synthesis, the latter reflects hermeneutics in a Gadamerian sense, opening horizons of interpretation.

In putting together a Festschrift in honor of Capurro we have aspired to present a volume that embodies more than merely an outline of various forms of information practice in context. We have sought to reveal to specialist and non-specialist alike the confluence

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3   Capurro asserts this "giving form" in both an epistemological (giving form to the mind) and ontological (giving form to matter) sense, the first sense being the one that remains in Modernity (personal communication, 23 December 2015).

between scholarly specialization and information culture, highlighting examples of the many ventures (and adventures of forward thinking) that information-focused scholars in different countries are embarked upon. We also wish to highlight a growing legacy of academic and personal relationships that find at their fulcrum the passion and dedication of Rafael Capurro. Our aim with this work is to serve two purposes. Primarily we hope to honor Capurro for his lifelong commitment to philosophy and information science by bringing together a collection of essays that either focus directly, or indirectly, on his work. The collateral aim was to look at how a series of specific topics associated with Capurro's self-declared interests—foundations of information science, information ethics, information management, message theory, philosophy of media, hermeneutics—might find a global audience and that a representative group of scholars with a degree of familiarity with Capurro's works could express their appreciation for his sanguine efforts to provide intelligent commentary upon and humanize the information disciplines.

Among the first of a long line of information science scholars to introduce an avowedly continental philosophical approach[4] to the understanding of the epistemological foundation of the discipline, Capurro has allowed us to better see, by way of examples in the philosophical tradition, how our values, our language and our sense of praxis affects the way we conceive of documents and other information artifacts—and their role in human society. He has provided considerable insight into the working of the digital realm, its effects on individuals, how the processes it instantiates in work and social life can both value and devalue our individual and professional lives. Capurro provides a sense of what the ordered world was prior to these changes but more so, what it might be were we to humanize the processes of digital and informational interaction.

Capurro's writings have long emphasized the need to look deeply into how we contextualize the information problems that emerge within a scientific society while providing a philosophically-based approach to dealing with them. With a focus on the human-information relationship that challenges traditional approaches to information science, Capurro brings a new treatment to the relationship between information theory and the grounding of Being. His contributions are among the first to recognize and then contextualize a full concept of information, superseding notions of information as merely an externally existent subject, clarifying instead its reliance on the living, changing interactions of human communication where meaning is lived and defined in an ever-evolving dialectic between message and messenger.

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4   It is worth noting that while a strong analytical tradition exists in continental Europe and has done so for many decades, the description of phenomenology as continental philosophy is still novel "on the Continent." Following the lead of German philosopher Odo Marquard in his posthumous lectures published as *Der Einzelne: Vorlesungen zur Existenzphilosophie* (2013), Capurro has explained the different traditions in contemporary philosophy to us as the result of the products of philosophers of existence versus those of philosophers of essences. We believe this is helpful in understanding both the philosophical arguments but also the variations of interpretation in philosophy of science (which impacts information science and understanding of the information disciplines).

By stressing the importance of moving the foundations of our conceptualization of information toward a more nuanced recognition— that information relationships are embedded within the contexts of our own lives, Capurro has advanced our ability to understand how we can progress from limited conceptions of information-as-tool or information-as-thing towards a view that allows us to see how information interpolates directly with both our communal sense of being and our personal sense of disclosing meaning.

Born in Montevideo, Uruguay, Capurro entered the Jesuits in the early 1960s at the age of 17. Attending first the novitiate in Uruguay, then the juvenat in Chile, he devoted himself to humanistic studies, particularly Greek and Latin, rhetoric, history of art, and literature. Capurro first took up his study of philosophy in Colegio Máximo San José, San Miguel (Buenos Aires). During his time there, hermeneutics had just found a resurgence in the wake of Hans-Georg Gadamer's newly published *Truth and Method*, which, in conjunction with the influence of Emmanuel Levinas, established the initial foundations for Capurro's own philosophical development. According to Capurro, Levinas, at the time, served as a kind of antithesis to Heidegger. [5] Capurro and his Jesuit peers were also particularly influenced by Husserl and Heidegger's philosophical direction which were mediated through the teaching of Juan Carlos Scannone (who had been a student of the Vatican II theologian Karl Rahner)[6]. Capurro explained it to us this way:

> Scannone was our (my) point of academic reference, not Thomism, but phenomenology, Husserl and Heidegger and also ethics related to the so-called philosophy and theology of liberation, that was strongly influenced by Marx and Che Guevara… We were also influenced by French existentialists like Sartre and Camus, by Saint-Exupéry,… so Thomism was the past, still there, but not the leading force any more. We read of course Augustine and the Greek and Latin Fathers but this was a more spiritual than an academic influence, except maybe Augustine. Abelard: yes, the *Historia Calamitatum*, not his main philosophical works, the same for Pascal. Descartes was the founder of modern dualism as criticized by Heidegger in *Being and Time*. So… ethics in the sense of practical commitment for the poor was essential academically and existentially, there was no movement from philosophy into ethics, but philosophy meant an involvement with ethical issues. We had courses also in value ethics, particularly on Jankélévitch, but there was a tension between this kind of ethics with the kind of existential philosophy coming from Heidegger, Sartre, Marx etc.[7]

Capurro's first publication, *La pregunta hermenéutica por el criterio del sentido del lenguaje* (1971)[8], addressed at length the issues of language and hermeneutics, largely reflecting these early influences.

It would be another decade before Capurro explored such issues, or philosophy at all, finding instead his post-clerical career in "documentation." In the early 1970s, Capurro

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5   Personal communication, 24 August 2013.

6   Scannone's work is often considered foundational to the development of "liberation theology" and he was, in addition to being Capurro's teacher, one of Jorge Bergoglio's (Pope Francis) instructors.

7   Personal communication, 25 November 2015.

8   "The Hermeneutic Question Concerning the Criterion of the Meaning of Language."

left his studies in theology and philosophy and traveled to Germany under a scientific exchange between the Federal Republic of Germany and Argentina. He had been appointed to a position in the Documentation Department of the Comisión Nacional de Estudios Geo-Heliofísicos in Buenos Aires in 1971 and, whilst in Germany, acquired a Diploma in Documentation from Lehrinstitut für Dokumentation in Frankfurt am Main in 1973. This was followed by practical experience at the Zentralstelle für Atomkernenergie-Dokumentation (ZAED) (Center for Nuclear Energy Documentation), a part of the International Nuclear Information System (INIS) at the International Atomic Energy Agency (IAEA) in Vienna.

It was during these years that Capurro first saw the potential for studies of the convergence of information, technology and philosophy, and the potential for applying his classical education to the very real day-to-day tasks of the technological transformation of information. Capurro understood what the discipline more generally was only slowly coming to realize—the intricacies of technology and information are intimately infused with human *Being*. Capurro's methodology first manifested in his PhD dissertation: *Information*, in 1978, an introduction dealing with the history of the concept of information (a theme Capurro would return to often throughout his career).

It was through an engagement with the work of the physicist and philosopher Carl Friedrich von Weizsäcker that Capurro first encountered a historical foundation for the concept of information in Plato and Aristotle; this foundation allowed for both an objective as well as a subjective place for information—it also recognized that this relationship had, in a sense, been maintained from antiquity (Capurro, 2009). It was from engaging with the text of Weizsäcker's talk "Language as Information," held in Munich in 1959,[9] that Capurro discovered what he considered to be the missing link in communication theory. Weizsäcker's drawing together of the Platonic notion of *eidos* (idea) with the Aristotelian notion of *morphe* (form) would ignite Capurro's quest to synthesize a unified concept of information (Weizsäcker, 1971; Capurro, 1996). Like Weizsäcker, Capurro would discover "an old truth in a new place" (Truede, 2014, p. 1), realizing that the origins of information theory were grounded, all along, in these concepts. In this way Capurro connects the modern search for the concept of information to its Platonic and Aristotelian roots.

Weizsäcker's inquiry had reconciled two pieces of the information puzzle. It was through reference to Norbert Wiener that Weizsäcker subsequently resolved that information is neither matter nor energy (Wiener, 1961). Working from this premise, Weizsäcker attempted to re-establish information (in its modern incarnation) as having characteristics of both *eidos* and *morphe*. Such ontological foundations of the information concept are not unprecedented. As Capurro notes,

> The relation between ontology and epistemology plays a significant role in Greek philosophy, particularly with regard to the concepts of *eidos/idéa, morphé* and *typos* in the philosophy of Plato and Aristotle. The Latin terms *informatio/informare* appear in translations and com-

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9   Published in the book *Die Einheit der Natur: Studien* (1971) which was later translated into an English language volume as *The Unity of Nature*.

mentaries of these Greek philosophical concepts. It is only at the end of the Middle Ages, with the decay of scholastic philosophy and the rise of Modernity, that the ontological meaning becomes unusual and the epistemological one remains. (Capurro, 1996, p. 1)

Capurro's encounter with "forms" and "in-*formation*" combined with his roots in existential and phenomenological philosophy, eventually led him into ethics. Ultimately, synthesizing both his work on information and his exploration of relational ethics, Capurro began to develop his own system of thought that would in time manifest as the field of *angeletics*. Capurro moved from an explicit focus on information to one more attuned to messaging, applying phenomenological arguments so as to explain the difference between the *what* and the *who* in this context.[10]

As one of the first philosophers to recognize and address the nature of the relationship between information, message and human *Being*, Capurro has helped to lay the groundwork for understanding an information society, or, as Capurro would be quick to correct—"information societies," in the plural. Presenting the "self" as ontologically informational is no small venture; it is a beguiling undertaking. As Capurro notes regarding the explication of this ontological relationship,

> if ontological refers to a who and his/her existence with others in a common world, then the meaning of "informational" changes: being informational means for us humans, being capable of letting things be *what* they are, i.e. their "form" or "essence" or way of being. And this letting things be what they are is different from letting ourselves/our selves be who they/we are, and this includes the possibilities of reifying (digitally or not) our whoness that becomes then an "identity" (which is a metaphysical category) that can be purchased, etc.[11]

In his first book, *Information*, Capurro also asks that we take heed of how

> the concept of information is used both in the ontological sense of shaping the material, the shape and material are to be understood as principles of beings, as well as in the epistemological sense of shaping knowledge…The ontological and epistemological meanings are characterized by moments of change, the action and the novelty or the ideological presenting, of representation and comprehension of the essence of a thing…The epistemological meanings therefore relate to the identification and transfer of knowledge (Capurro, 1978, 6.1.2, Philosophical Area, M.Kelly, trans.).

Arguably, Capurro and Fred Dretske were not so far apart (in time and intent) in seeking to put some distance between themselves and an ever-so-immediate information definition (which was a simple or naturalistic category) and that its perception, its ontological meaning, should so often be quickly passed over (emphasizing too readily connections either to data or to knowledge). Dretske states that, with supplementation, these broader theoretics "can be adapted to formulate a genuinely *semantic* theory of information," (1981/1999, p. x) a view which has proved influential ever since. Capurro, in this early

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10 Capurro, personal communication, 30 October, 2013.

11 Capurro, personal communication, 28 October, 2013.

work, seeks to explain the insight that "the concept of information is characterized by the original unity of the ontological and epistemological moment" and further that the concept "refers to any self-sufficient, self-contained reality… its logic status is formal-abstract in nature" (Capurro, 1978, 6.2, para. 2). In many ways it seems that his deep immersion in the Heideggerian canon had prepared him to start to take a significant step out of the realist ontological position that then held sway over information science inquiry and to begin to open the door for a more relativist or instrumentalist underpinning in line with aspects of Dewey's and Popper's critiques (see also Capurro, 1987; Saab & Fonseca, 2008).[12]

Takenouchi reminds us that this "ability to see through the relationships of meanings" is key to appreciating

> the inseparable, interactive, and tight relationships between information technology and human lives, the "outer" and "inner" world, theories and practices, science and technology, and self and others. Whether we are aware of it or not, we always have some kind of outlook on certain plural relationships of meanings in our holistic human lives. Through practice, foresight is put into hermeneutic circulation, which leads to a new understanding or way of seeing. In this process, fixed statements or casuistic norms which provide problems and solutions in advance have slight significance but do not have ultimate authority. The plasticity or flexibility of human lives, in other words, the possibility of projection, provides the key to understanding. (Takenouchi, 2004, p. 3)

How has Capurro brought culture, and theories of culture (the two are not the same), to the forefront of theory and research in the relationship of the information disciplines to philosophy and the *Geisteswissenschaften*? We believe it has been by asking (deeply and often) how it is we understand the various ways that information intercalates between theoretical social science and a more technological or conceptual understanding of the use of information (or data and knowledge) in our everyday worlds. By asking these questions we can, like Capurro, begin to better appreciate the role of information culture in fashioning our social and working lives.

We chose to focus on information cultures in the digital age as the primary theme for this book as information and culture remains a significant area of dispute, of controversy and of interest to not only academic audiences but to broader communities with an interest in how we conceptualize and manage the *data-informatic* that permeates our lifeworlds. While one's level of economic prosperity, one's political freedom and one's level of acceptance based on religious, ethnic or social orientation may differ markedly by country (and within a country), the forces of global capital that can effect change in our technological (and hence informational) state-of-being, are with limited exceptions, increasingly homogenized and homogenizing.

The contributors to this Festschrift have resisted this trend and have provided a diverse and richly-endowed montage of what it means to be motivated by the concept of information

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12 Similarly, Hickman (1992, p. 17 ff.) outlines the way that Dewey's pragmatic approach to technology, "knowing as a technological artifact" begins to sideline many of the prejudices associated with various dualisms of mind, body, thought and discourse.

(or, alternatively, to resist information as the defining motif of practice and significance in dealing with documents and data) in the early 21st century. While this volume is not designed to provide a diorama of all possible worlds, we have been fortunate to attract contributions from South Africa, Israel, the United Kingdom, Sweden, Finland, Spain, Portugal, Germany, India, Thailand, Canada, the United States, Brazil, Uruguay and Australia.[13] In this sense, our broader desire to open to a wider readership (those with an interest in both information and philosophical themes—if not in information science or the philosophy of information per se) elements of the foundational, ethical and hermeneutical aspects of information scholarship has had fortuitous results. We acknowledge that this is entirely our good fortune in being able to bring together a significant group of scholars who have been—in some way, shape or form—influenced by Capurro's work. We were particularly surprised, very late in this project's gestation, to find that our project was not the first Festschrift to refer to Information Culture in its title. The Festschrift of Capurro's doctoral supervisor Norbert Henrichs has a similar title.[14] We hope readers will appreciate the serendipitous nature of this and, if they are able to, avail themselves of the arguments made in that volume as well.

The milieu in which the information disciplines operate within, that they help to define and to understand is, in our view, intrinsically an ethical and hermeneutically-oriented one. The digital world creates the conditions in which a number of critical factors coalesce (power, equity, virtuality, ecology, truthfulness) that require us to look to how we evaluate and how we understand the relationship of technologies to values, the nature of communicative interaction, and a range of more fundamental questions of sociological and philosophical inquiry. In all of these questions that focus on how we create, use, organize, interpret, disseminate and store information we need to understand the qualities of interaction and the relationships between the various expressions—the social, human and contemporary expressions—of information culture. This type of inquiry brings to more general focus these issues that cross disciplinary boundaries and, we believe, serves to reveal the human quality of information science, of library culture and of the challenges that are involved in defining the issues that impact our digital working and social existence.

The dimensionality of the informational message in terms of ethical, political and privacy concerns needs to be brought into a more faceted understanding that allows for the locus of control to be redefined in terms of the global and diachronic nature of the changes that the digital age has brought with it. The historical and market-oriented factors that change how these factors impact individuals' lives and the information cultures within which

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13   Also impacting and informing Capurro's work at a foundational level, but not included in this volume, are influences from both Japan and China (especially the work of Prof. Makoto Nakada of the University of Tsukuba, Japan and Prof. LÜ Yao-huai of Suzhou University of Science and Technology, China.

14   *On the Road to Information Culture: True Information* (Schröder, 2000). Michael Eldred alerted us to how the German title *Auf dem Weg zur Informationskultur: Wa(h)re Information* includes a play on the words *wahre* (true) and *Ware* (commodity). Capurro contributed a chapter entitled "Knowledge Management and Beyond" (*Wissensmanagement und darüber hinaus*). http://www.capurro.de/wissensmanagement.html

they are situated are more than collateral issues to the story of information change. These factors are intrinsically and dynamically interactive with the technological realities that take up so much focus within which the discourse of information operates.

How we reason with information as our documentary/artifact-oriented reality, how we relate to problems of a particular and complicated nature, how we see information as operating temporally and in more personal senses[15] are all central to the information culture that we inherit and perpetuate. A generation ago Machlup and Mansfield undertook a somewhat similar project, *The Study of Information*, which they described as seeking to "analyse the logical (or methodological) and pragmatic relations among the disciplines and subject areas that are centered on information" (1983, p. 3). Webster's edited collection *Theories of the Information Society* featuring contributions by Bell, Castells, Giddens, Habermas and Schiller (1995/2006) is similarly widely consulted, but unlike Machlup and Mansfield's work, essentially devoid of references to the work of information science. Theorising about information society without reference to the work of scholars who understand information (in its many splendored forms) runs the serious risk of treating complex matters in general, prosaic and workaday ways that do not do important themes justice. That being said, Webster's work and that of his collaborators remains a valuable contribution toward questioning the "neat linear logic" behind the adage that "technological innovation results in social change" (1995/2006, p. 264). Much closer to the dawn of the discipline than today, Borko asked us to ground the work of information science in its documental roots but to, also, breathe new life into it with the ever changing representational and technological contexts that would develop out of "origination, collection, organization, storage, retrieval, interpretation, transmission, transformation, and utilization of information" (1968, p. 3). In the years that followed it would seem fair to say that the nuance has changed, at least at one level, moving from psychologizing the behavior of individuals to defining the situational and conceptual norms that allow us to make sense of complex information and even more complex "public knowledge." [16] All too often though with reference to ethics and the historicality that underpins our information-oriented work we still operate very much on a paradigm of computer as "tool and research model" (Brier, 1999, p. 81) similar to that which existed in the late 20th century. We hope that such a paradigm might be in the process of replacement.

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15 This personal sense goes to how we deal with issues of human finitude and knowledge and with the self-conscious reception that Moore (1992, p. 437) describes when he says that "ineffable insights are practical insights" and asks us to look to how these types of insights help to make "coherent, self-conscious agency a possibility" and to reveal "not merely…how to do things but… how to do anything that is expressive of humanity in its self-conscious finitude (1992, 442).

16 Ma (2015, p.537) makes the case that "the core concerns with how we deal with most information stored, preserved, and organized today is not usually co-constructed by the public based on communicative actions" but is "in the hands of information professionals, who hold the authority bestowed by the public to determine what may become public knowledge." This leads to quite profound consequences for any hermeneutic (or deconstructive) urge to "think of information as "objective"… [and] leaves us with the questions concerning the collective responsibility in collecting, preserving, and organizing information."

Within this volume a significant cross-section of issues canvassed deal with unresolved or contentious matters in digital culture. Many of the contributions deal with how science and philosophy cross swords, but also, how they co-operate to help mold our local and global lives. The ethical focus of institutions which mediate the Dretskian "information flows" that emanate from (and drive) such dialectical and dialogic engagement is a substantial issue for many of the authors in this volume. While some deal with these issues through an articulation of social and textual practices that are philosophically-inclined or related to one type of disciplinary practice or another, several authors challenge the narratives that underpin conventional reception of information culture in the digital age. This move to understand information beyond a simple form of intentionality (from data objectified to information informing perhaps[17]) toward a more public discourse that underscores how various types of privileging of narrative, of labor and of market operate to achieve an information end is often, but not always, political in nature. Several chapters look to reveal the historical or genealogical currents that have helped to forge the logical, veridical and moral ways we manipulate and organize information for cultural ends. These contributions help to effect a de-trancendentalization of the information project by helping us to see that there are few permanent neutral matrices available for information inquiry and that many issues and types of understanding recur or are re-imagined. What is foundational (once the wheat is sorted from the chaff) has been made so not because it is a discovery of certain inalienable properties, but because it is characteristic of any scientific project that is, as Sellars would have it, "self-correcting"[18] in nature.

Rorty outlines how the well-known (but often poorly understood) "linguistic turn" in philosophy freed philosophers from empirical dependence (analytically or phenomenologically inspired) and allowed the "Platonic role as spectator of time and eternity" to be re-acquired after the 19th century crisis that saw scientific psychology question philosophy's relevance in a rapidly changing world (where [apparently] real problems were being uncovered and solved by quite different methods to prevailing Idealist or Neo-Kantian approaches). Rorty calls these linguistic philosophical artifacts "privileged representations" and points to how Quine and Sellars variously, and in a behavioristic fashion, dismantle these in favour of an historically-informed horizon (he does not use such Gadamerian terms but the parallels are obvious) which leads to the conclusion "we do not need privileged representations to account for knowledge claims." For our purposes, the implication is that relativity (and Rorty makes this clear in more or less general terms applicable to information inquiry) needs to be given greater weight in how we approach the subject of informational reality

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17 Dretske (1979, pp. 174-188) points to how in qualifying for cognitive attributes a given system "must be capable of occupying higher-order intentional states," such states may be said, very loosely, to divide or to discriminate and select information "for special treatment…as the content of that higher-order intentional state that is to be identified as the belief." We might take for our purposes here the lesson that "plasticity" is key to understanding how systems (machine or human) generate internal states about "distant sources" and refine or reify these as "semantic content."

18 For a fuller explication see Rorty (1985).

and how we assess apodictic claims made in support of either general (ethical) or particular (hermeneutic or ontological) expressions thereof. To paraphrase Rorty's characterisation of the linguistic turn's contribution to the Platonic project and to give it an informational slant, through return to the specifics of information culture we are better placed to see through the putative "objectivity…necessity…reason and human nature" and to instantiate or embed pragmatic approaches that are constitutive of an approach that recognizes we are "a self-changing being" (Rorty, 1985, p. 104) and that we remake ourselves when we remake our linguisticality, or just as validly, when we remake our informational capability (our information culture).

The ability of scholars conversant with informatic culture (commonly understood as the interstitial space between information science and information systems) and related studies of informatically-informed studies of culture (the difference is slight but important) to help reveal how we find ourselves cast in the digital world, what this means for the realization of past aspirations (our own and the traditions we inherit) and what it means for the active representation of the self as an evaluating, interpreting, temporal being should, we believe, be more fulsomely understood. The particular—and global—vision that our contributors bring to these times of change, the insights into its paradoxical and cyclical nature, the role of values and desire, control and emancipation—how we conceal and reveal our information and the information of others, all of this helps to constitute a better understanding of the relationships between the unchanging social factors (limited as they may be) which exist in the information milieus and the changing paradigmatic areas of concern that require us to question moral or situational choice and interpretive method. Taken together we might see this as, in a sense, empathic understanding (*verstehen*): a variety of such *verstehen* that is unable to be separated from patterns that reflect our language, political choices and perhaps more than anything, our epistemic priorities.

While smooth connections between information practice and cultural practice are often easily made, the connections with the applied information disciplines and their theoretical bases can be tenuous, seriously diminishing the effective critique they propose to offer. We feel that allied to these information-oriented cultural practices is a collateral concept of understanding knowledge environments in this context that is sensitively and creatively engaged in by many of the chapters in this volume. While not all the chapters which follow look specifically at Capurro's work, most do refer to it in some way. They all, however, illuminate the search for the meaning of information practices and we believe will be of use to a range of readers working in a variety of specializations.

David Bawden and Lyn Robinson open the section on *Culture and Philosophy of Information*. They offer a critical yet, ultimately, sympathetic analysis of Capurro's contribution to information science. They are not convinced that the equivocal concept of information, which they describe as "the existence, on equal terms, of different concepts of information in different domains" as outlined in "Capurro's Trilemma" can be well-reasoned, or at least, adequately reasoned. Their argument hinges on the claim that merely finding relations through language is less robust than a category of "objective relations" understood *ab aeterno*. They are not in dispute with the need for an approach that is pluralistic enough

to encompass various uses of the information concept but they advocate for grounded means by which gaps in articulation can be resolved. They seek to resolve, or axiomatize, where Capurro seeks to uncover (or recover) the intentionality behind the expressions of informational reality. While their critique of a physicalist conception of information when coupled with Capurro's message theory is convincing, so is their support also for the ongoing validity of Popper's World 3 ontology—with one qualifier. If we only choose a single norm to instantiate our information ontology we already trespass violently on Popper's aim in propounding this Three Worlds ontology, which was to ensure monist or dualist approaches do not prosper. Apel's criticism of Popper's equation of "the possibility of philosophical grounding with the possibility of deduction" goes to a certain absence of "transcendental reflection or contemplation" (1980, p. 268). It would seem that there is an often unrecognized connection between Peirce's semiotic approach (sign, object, interpretant) and Popper's ontology; in the advocacy of an anti-Cartesianism[19] both reject the intuitionist versions of a truth that is solely anchored to human construction of (informational) reality in favour of an approach that looks to understand knowledge as less mind bound than "subclass of our evolved artifacts" (Skagestad, 1993, p. 173). Bawden and Robinson's pragmatic information philosophy encourages us to look to the questions of the real in an increasingly virtually-oriented world.

For Joseph E. Brenner, the Heideggerian concepts of what it is to be an informationally-oriented human being, as defined by Capurro, are eminently relatable to what we might call a "scientific world-view." Through reference to what is *always and already* the social nature of meaningful information, Brenner explores how we act upon and are influenced by information as ontological ethical reality, inseparable from who and possibly what we

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19 Rorty points to how the question of meaning and its relationship to its justification is convoluted. Rather than Descartes having misled us that epistemology is the foundation of all philosophy he, in fact, created the conditions for "an epistemological problematic." The resulting philosophy was a "metaphysics [which] made the world safe for clear and distinct ideas and moral obligations, and in which the problems of moral philosophy became problems of meta-ethics, problems of the justification of moral judgements. This is not to make epistemology the foundation of philosophy so much as to invent something new—epistemology—to bear the name 'philosophy.'" Rorty tracks an eminently simple trace of ancient and medieval *things*, early modern *ideas* and contemporary *words* as reflective of historical change in philosophical emphasis. Likewise, the ontology of information will have various expressions based on a set of considerations associated with the demands of the philosopher-theorists. What we should hope to avoid is the pitfalls of assuming foundational knowledge in discursive fields have eternal relevance (objectivist approaches that become scientistic) or, that if we cannot bed down a concept once and for all, the concept is irredeemably trivial or unimportant (relativist approaches that become nihilistic). Both tendencies make it difficult for us to engage in dialogue across science/scholarship and natural science/social science boundaries. We feel that, put in the most rudimentary way, the advantages of aligning the informational concept with philosophy rather than science far outweigh the disadvantages. In this there is a sense that Rorty's "cultural genre" brings back into focus the need to deploy the informational concept— as he does the philosophical concept— to center "on one topic rather than another at some given time not by dialectical necessity but as a result of various things happening elsewhere in the conversation" (1979, pp. 262-264).