Luciano Floridi's philosophy of information and information ethics: Critical reflections and the state of the art

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Abstract. I describe the emergence of Floridi's philosophy of information (PI) and information ethics (IE) against the larger backdrop of Information and Computer Ethics (ICE). Among their many strengths, PI and IE offer promising metaphysical and ethical frameworks for a global ICE that holds together globally shared norms with the irreducible differences that define local cultural and ethical traditions. I then review the major defenses and critiques of PI and IE offered by contributors to this special issue, and highlight Floridi's responses to especially two central problems – the charge of relativism and the meaning of 'entropy' in IE. These responses, conjoined with several elaborations of PI and IE offered here by diverse contributors, including important connections with the naturalistic philosophies of Spinoza and other major Western and Eastern figures, thus issue in an expanded and more refined version of PI and IE – one still facing important questions as well as possibilities for further development.

Key words: information and computing ethics (ICE), computer ethics, philosophy of information, information ethics, ethical relativism, ethical pluralism, philosophical naturalism, Level of Abstraction (LoA), discourse ethics

Introduction

As predicted in the 1990s[1] by such figures as Kristina Gòrniak-Kocikowska,[2] Terrell Ward Bynum and Simon Rogerson,[3] James Moor[4] and Deborah Johnson,[5] in the last decade or so Computer Ethics – once the province of a relatively small number of professional computer scientists, librarians, and philosophers – has become a mainstream component of applied ethics and philosophy more broadly. There are multiple, well-known reasons for this – starting with the material reality that computers, computer networks, and the panoply of applications that allow us to use them in a near-infinite number of ways, have transformed from rare, imposing, and very expensive devices, available only to a few researchers and large businesses, into an everyday appliance in the developed world and, perhaps most importantly, into a genuinely global modality of communication that now connects over 1/6th of the world's population. Within this relatively short span of time, Computer Ethics has likewise transformed – driven in good measure by the increasingly urgent need to develop an ethics for these emerging technologies as they become simultaneously more commonplace and globally distributed.

To be sure, any contemporary reflection on especially a computer ethics oriented towards these global dimensions of Information and Computing Technologies (ICTs) and their use – what Rafael Capurro

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[1] The following are cited in Barbara Paterson (2007). "We Cannot Eat Data: The Need for Computer Ethics to Address the Cultural and Ecological Impacts of Computing," (in S. Hongladarom and C. Ess (eds.), *Information Technology Ethics: Cultural Perspectives,* 153–168. Hershey, PA: IGI Global), p. 153.

[2] K. Gòrniak-Kocikowska (1996). The computer revolution and the problem of global ethics. *Science and Engineering Ethics*, 2, 177–190.

[3] Terrell Ward Bynum and Simon Rogerson (1996). Introduction and overview: Global information ethics. *Science and Engineering Ethics*, 2, 131–136.

[4] James Moor (1998). Reason, relativity, and responsibility in computer ethics. *Computers and Society*, 28, 14–21.

[5] D.G. Johnson (1999). Computer ethics in the 21st century. In *Proceedings of ETHICOMP99*, Rome, Italy.

helpfully identified as intercultural information ethics[6] and what I have called a global Information and Computing Ethics[7] – rests on the shoulders of giants: the canon of relevant figures and works – beginning with Norbert Wiener[8] and extending through the work of Deborah Johnson, James Moor, Terry Bynum, and many others[9] – is relatively well established. But moving beyond these Western contributions, especially in the face of the ways in which computers and computer networks have become increasingly ubiquitous and globalized, has raised multiple new challenges and requirements for Information and Computing Ethics (ICE) – e.g., how to develop a (quasi) universal computer ethics that achieves legitimacy through the rational assent of peoples from around the globe, in part as it preserves and fosters the particular values, norms, practices, etc., instantiated in local ethical and cultural traditions?[10]

In these contexts, it is difficult to overstate the contribution and significance of Luciano Floridi's work – first in conjunction with Jeff Sanders,[11] and

then in his further developments of the philosophy of information (PI) and correlative information ethics (IE).[12] Among the multiple contributions to the working vocabulary and conceptual frameworks now commonly referred to in ICE – one of the most important of these is Floridi's conceptualization of a PI that begins with information as an *ontological* primary: as Bernd Carsten Stahl develops more fully in this issue in his introduction to Floridi's work, this information ontology then leads directly to an "ontocentric" ethics – one that goes beyond not only the anthropocentric ethics characteristic of most Western thinkers, but also even more recent biocentric ethics that have emerged, for example, in feminist and ecological ethics.

This ontocentric ethics, as we will see, issues in a number of controversial claims that our contributors will examine in considerable detail. But one of its chief advantages is precisely its ability to respond to one of the central challenges of a global ICE that seeks to preserve and foster local cultural and ethical traditions. In particular, Floridi's understanding of his PI as offering a "lite ontology" – one that can be shared in a "thin" way globally, while preserving the "thick" ontologies of local traditions and cultures – thus offers a promising foundation for an ethical pluralism that seeks to sustain a shared, genuinely global information and computing ethics (ICE) alongside the irreducible differences defining local cultural identities.[13]

More broadly, both ICE in general and the work of Floridi in particular have developed to the point that it now seems appropriate to attempt to

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[6] Rafael Capurro (2005). Privacy: An Intercultural Perspective. *Ethics and Information Technology*, 7(1: March): 37–47.

[7] An Impending Global ICE (Information and Computing Ethics) Age? Center for Information Policy Research, University of Wisconsin-Milwaukee, November 13, 2006. <http://www.uwm.edu/Dept/SOIS/cipr/docs/ess.pdf>.

[8] Norbert Wiener (1948). *Cybernetics: or Control and Communication in the Animal and the Machine*. New York: John Wiley.

[9] For a brief overview of this history, see Terrell Ward Bynum (2008), "Milestones in the History of Information and Computer Ethics," in Kenneth Einar Himma and Herman T. Tavani (eds.), *The Handbook of Information and Computer Ethics*, 25–48. Hoboken, NJ: John Wiley.

[10] See Ess (2006a); Soraj Hongladarom (2007). Analysis and Justification of Privacy from a Buddhist Perspective, p. 115. In S. Hongladarom and C. Ess (eds.), *Information Technology Ethics: Cultural Perspectives*, 108–122. Hershey, PA: IGI Global. In fact, we will return to this central issue in section four: see footnote 19.

[11] L. Floridi and J.W. Sanders (2001). Artificial Evil and the Foundation of Computer Ethics. *Ethics and Information Technology*, 3(1), 55–66; L. Floridi and J.W. Sanders (2002). Computer Ethics: Mapping the Foundationalist Debate. *Ethics and Information Technology*, 4(1), 1–9.

[12] E.g., L. Floridi (1999). Information Ethics: On the Theoretical Foundations of Computer Ethics. *Ethics and Information Technology*, 1(1), 37–56; L. Floridi (2002). Information Ethics: An Environmental Approach to the Digital Divide. *Philosophy in the Contemporary World*, 9(1), 39–45; L. Floridi (2003). On the Intrinsic Value of Information Objects and the Infosphere. *Ethics and Information Technology*, 4(4), 287–304; L. Floridi (2007). Global Information Ethics: The Importance of Being Environmentally Earnest. *International Journal of Technology and Human Interaction*, 3(3), 1–11; L. Floridi (2008). Information Ethics: Its Nature and Scope. In Jeroen van den Hoven and John Weckert (eds.), *Moral Philosophy and Information Technology*, 40–65. Cambridge: Cambridge University Press.

[13] See L. Floridi (2006). Four Challenges for a Theory of Informational Privacy. *Ethics and Information Technology*, 8(3), 109–119. Available online: <http://www.philosophyofinformation.net/>; Charles Ess (2006). Ethical Pluralism and Global Information Ethics. In Luciano Floridi and Julian Savulescu (eds.), Information Ethics: Agents, Artifacts and New Cultural Perspectives. *Ethics and Information Technology*, 8(4: November): 215–226. We will return to this point in the concluding comments.

undertake a coordinated review of the PI and IE – first of all, in order to develop an overview of these frameworks as centrally important to ICE; secondly, to offer a reasonably comprehensive range of both important criticisms and defenses of PI and IE; and finally – especially with the assistance of Luciano Floridi – to develop a fully nuanced and current understanding of both the strengths and limitations of PI and IE.

We seek to do so here as follows. We first offer a series of critical responses to PI and IE from colleagues whose own work likewise has provided major contributions and insight into contemporary ICE. These contributions are divided into three groups. The first set of essays both introduce us to PI and IE in general, and then open into a series of critiques of IE. In the initial three contributions, *Bernd Carsten Stahl*, *Philip Brey*, and *Frances Grodzinsky*, *Keith Miller*, and *Marty A. Wolf*, use these critiques not as a ground for rejecting PI and IE *tout court*, but rather as a springboard for suggesting significant refinements to IE intended to recognize and overcome at least several of the major criticisms launched against IE. The next contribution in this section, by *Deborah Johnson* and *Keith Miller* is less optimistic, in effect, that IE can be salvaged in the face of important criticisms. Finally, *Dan Burk* tests Floridi's IE against the demand than an IE provide an effective framework for analysis and resolution of disputes in law relating to information: on Burk's analysis, Floridi's IE is certainly amenable to serving as such a framework already with regard to some areas of information law – but, as a specific test-case illustrates, requires additional development if it is to realize its full potential as such a framework.

The second set of contributions – defenses of IE – is made up of two chapters. The first, by *Herman Tavani*, provides a partial defense of IE against a common critique examined in the first section – namely, that it fails to provide sufficient guidance in *praxis* – by exploring Floridi's extensive reflections on the ethics of privacy as a specific application of IE. More broadly, *Alison Adam* defends the major claims of IE through an appeal to a diverse set of theoretical considerations and contemporary developments.

The third set of papers focuses on PI as an ontological framework that funds IE. Here, *Rafael Capurro* offers an extensive critique of Floridi's metaphysical claims, urging a retreat (similar to that in IE argued especially by Johnson and Miller) from ontocentrism. By contrast, *Soraj Hongladarom* elaborates on the parallels between Floridi's metaphysics and those of Spinoza (a point made originally by Floridi and explored here in considerable detail). Hongladarom argues that taking on board Spinoza's

notion of God or Nature, as an infinite substance that escapes complete comprehension by finite humans, provides a new way for PI to respond both to the charge of relativism and to the larger problem facing an especially global computer ethics – namely, how to develop a global ethics that conjoins shared moral norms with irreducibly different ethical and cultural traditions that define diverse cultural identities.

Finally, we then turn to Luciano Floridi's response to the central criticisms and suggestions raised in these three sets of papers, along with his current reflections on the "state of art" of PI and IE.

The philosophy of information (PI) and information ethics (IE): IE – friendly critics, radical critique, defense

So we begin with the essay by *Bernd Carsten Stahl*, "Discourses on Information Ethics: The Claim to Universality." First of all, Stahl provides us with a general introduction to both Floridi and Sanders' PI as a theory of information ontology, and to the correlative IE. Stahl further offers a criticism of IE that is reiterated and expanded by a number of other contributors here – namely, that the claim to *universality* made in IE is undermined, if not contradicted, by a kind of relativity that threatens to attach to PI and IE. Briefly, if any set of claims – whether normative and/or ontological – is dependent upon the particular perspective or what Floridi and Sanders famously develop as a Level of Abstraction from which it is made, then how are we to defend the claims from a given LoA (as ostensibly universal) vis-à-vis claims from another LoA (which may be more clearly relative to that LoA?). Stahl sharpens this critique by comparing IE with the Discourse Ethics (DE) associated especially with the work of Jürgen Habermas: for Stahl, DE as a *procedural* ethics is better able than PI and IE to provide us with specific ethical guidance in *praxis* – especially as it more clearly avoids the problem of relativism. Again, Stahl's overall intention is not to thereby articulate a fatal objection to IE – but rather to provoke further consideration of possible strategies for overcoming what he sees as one of its chief deficits.

Philip Brey, in his "Do We Have Moral Duties Towards Information Objects?" then provides a more detailed overview of IE and discusses two of the paradigmatic critiques of IE, beginning with what Brey calls the anti-egalitarian argument – i.e., the charge that IE's ontocentric approach does not seem to offer ways of distinguishing between the presumptive moral status of diverse information objects. Yet such distinctions seem to be essential for any

ethical theory that seeks to offer meaningful guidance in *praxis*, where our ethical decisions often require us to weigh the relative value or status of one entity against another. Secondly, the *argument from ontological relativity* echoes the critique initially raised here by Stahl – namely, that our perception of, and thus claims about, a given object depends upon the LoA we take up: for Brey, this means, however, that any claim within IE that an object has intrinsic value is again problematic, in part because such a claim apparently depends upon the specific LoA from which it is made. Finally, Brey's own critique argues for a modification of IE, one that would have it move back from its ontocentric foundations to more biocentric ones: in doing so, Brey argues that IE would thereby avoid at least some of its most serious critiques, while simultaneously becoming more directly applicable in *praxis* (where IE's current self-emphasis as a general theory has led precisely to the critique of its inapplicability in *praxis*).

Frances Grodzinsky, *Keith Miller*, and *Marty J. Wolf* stand as a middle ground between these critical friends of IE and those who are less optimistic that IE can survive critique. They accept Floridi and Sander's notion of Levels of Abstractions (LoAs), and use these to make a distinction between artificial agents, whose behavior can be entirely known and predicted by their designers (from within what they identify as LoA2), and artificial agents whose behavior, especially as shaped their own learning* and intentionality* (where the asterisk is used to acknowledge that such learning and intentionality are not necessarily precisely identical with those affiliated with human beings), cannot be known or predicted by their designers (inhabiting LoA1). In the former case, it seems clear that designers have complete responsibility for the behaviors of the agents they design. In the latter case, while acknowledging the argument made by Floridi and Sanders that such agents must be recognized as moral agents, Grodzinsky, Miller and Wolf nonetheless argue that their designers – indeed, all stakeholders engaged with such agents – retain a strong moral responsibility for their agents' behavior.

More radically, *Deborah Johnson* and *Keith Miller* likewise take up Floridi and Sander's conception of Levels of Abstraction (LoAs) – but so as to argue *against* Floridi and Sanders' argument that we must recognize artificial agents as moral agents. They specifically criticize the argument as itself confusing claims that can be made about artificial agents from two different LoAs. At the same time, they object to what they see as an especially pernicious consequence they believe will follow from a wholesale acknowledgement of artificial agents as moral agents – namely, that

human responsibility for the design, implementation, use, and impacts of artificial agents will be occluded or denied.

Dan Burk begins by observing that "Law as a formalized and applied set of ethical practices is ultimately grounded in some framework of guiding principles; information ethics aspires to provide such principles." Hence, one way of testing and evaluating any IE is to examine how far that ethics in fact succeeds as a framework for fruitful analysis and resolution of important legal disputes regarding information. On Burk's showing, on the one hand, current cases in the areas of privacy, publicity, and intellectual property rights would only require "relatively small adjustment" to render Floridi's IE amenable to serving as the needed ethical foundation. On the other hand, Burk finds that Floridi's IE does not – yet – provide a complete and unambiguous means for resolving a current legal debate regarding "control of player performance statistics in 'fantasy' sport leagues." This suggests that while IE certainly stands as a prominent candidate for an ethical theory that can fund information law in important (indeed, urgent) ways – it requires further articulation and development before it will do so as fully and robustly as we require.

Defenses of IE

In her "Ethics for Things," *Alison Adam* seeks to defend IE against one of the central critiques against IE (such as we will see especially in the contribution by Rafael Capurro, below), namely, that IE goes too far as it moves from an anthropocentric to "ontocentric" ethics and thereby claims moral status for non-human/non-animate objects. To do so, Adam invokes three theoretical elements: Actor Network Theory (ANT), Dennett's[14] views on 'as if' intentionality and Magnani's[15] characterization of 'moral mediators'. In particular, Adam argues that Actor Network Theory can provide a coherent account of how we can regard, e.g., dogs and seat belts as moral agents – but not morally *responsible* agents of the sort who can take appropriately take blame when something goes wrong. There is here, in other words, a

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[14] D.C. Dennett. The Myth of Original Intentionality. In E. Dietrich, editor, *Thinking Computers and Virtual Persons: Essays on the Intentionality of Machines*, pp. 91–107. Academic Press, San Diego, CA and London, 1994.

[15] L. Magnani. Distributed morality and technological artifacts. Paper presented at 4th International Conference on Human being in Contemporary Philosophy, Volgograd, 2007. Available at <http://volgograd2007.goldenideashome.com/2%20Papers/Magnani%20Lorenzo%20p.pdf>. Accessed 30th August 2007.

notion of distributed morality, one that is in tune with the approach of IE – and, we can note, with other accounts of distributed morality that include moral status for non-human objects.[16]

Herman Tavani's "Floridi's Ontological Theory of Informational Privacy: Some Implications and Challenges" defends PI and IE by taking up a specific focus on privacy as not simply one of the most central issues in information and computing ethics generally, but also as one of the issues Floridi sought to most fully apply the PI and IE as theories. Tavani begins with an overview of Floridi's account of privacy within PI and IE, along with Floridi's own account of the four challenges to his theory[17] – and then adds two of his own: Tavani argues that in its current form, Floridi's ontological theory of information privacy fails to distinguish between (1) informational and psychological privacy, and between (2) descriptive and normative dimensions of informational privacy. Nonetheless, Tavani further argues that Floridi's account of privacy may be strengthened by developing it further along the lines of what he calls a "personality theory of privacy" – and in this way, Tavani reiterates the strategies of Stahl, Brey, and, as we will see, Soraj Hongladarom, as they seek to salvage Floridi's theory through additional elements and potential developments. At the same time, Tavani's suggestion that Floridi's account of privacy may survive even the most substantive critiques stands as an important counterpoint to the claim that Floridi's PI and IE are limited because they may not be applicable in *praxis*.

PI as a theory of information ontology

The first essay by *Rafael Capurro*, "On Floridi's Metaphysical Foundation of Information Ecology," undertakes an extensive critique of PI, understood as the "metaphysical foundation of information ecology." In particular, Capurro challenges IE's ascription of moral status to artificial agents (thereby reinforcing especially the critiques of Johnson and Miller, and then Grodzinsky et al in the first section), and "the ontological conception of value as a first order category." In ways parallel to especially Brey's

suggested revision of IE, and reinforcing especially Johnson and Miller's insistence on the strong moral responsibility of designers, even if their artificial agents are acknowledged as moral agents – Capurro argues for what he characterizes as "a weakening of Floridi's demiurgic information ecology" in order to bring to the foreground "the limitations of human actors and/or of their surrogates, digital agents." This again issues in a different theoretical and practical framework, in which artificial agents enjoy a more limited moral status.

Our final essay from *Soraj Hongladarom*, "Floridi and Spinoza on Global Information Ethics," first connects Floridi's thought with Kant's arguments for some beings having intrinsic worth, thereby echoing Stahl's effort to connect IE with Kant and Habermas. Hongladarom then explores a number of similarities between Floridi and Spinoza – both of whom Hongladarom takes to stand as examples of ethical naturalism. Hongladarom argues that these parallels, if elaborated further within PI, would help resolve important problems more successfully, beginning with the difficulty of deriving normative force from naturalism. Moreover, Hongladarom argues that by using Spinoza's conception of God as a sole Substance that is nonetheless understood by finite human intellects in diverse ways, Spinoza offers a model for resolving a central issue for any IE that seeks to be global while simultaneously sustaining local cultural differences.

Luciano Floridi: PI, IE, and the current state of the art

Floridi's PI and IE thus face a range of serious critiques, beginning with the potential relativity of IE in its reliance on Levels of Abstraction (Stahl, Brey). Additional questions are raised here regarding IE's ability to fully address central problems in the domains of privacy (Tavani) and the ethical responsibility of software designers (Grodzinsky, Miller and Wolf, and Johnson and Miller). Broader challenges are then raised – first, whether IE in its current form is robust enough to serve as a needed ethical framework for information law (Burk). Perhaps most comprehensively, Capurro – in part, as inspired by Heidegger – argues that PI and IE go too far as a metaphysics of information.

At the same time, several contributors have sought to both defend and expand Floridi's thought – beginning with the suggestion that IE would be better able to address central ethical challenges if it were elaborated in ways that incorporated the approach of Discourse Ethics (Stahl). Similar elaborations in the

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[16] E.g., Johnny Søraker, The Moral Status of Information and Information Technologies: A Relational Theory of Moral Status. In S. Hongladarom and C. Ess (eds.), *Information Technology Ethics: Cultural Perspectives*, pp. 1–19. IGI Global, Hershey, PA, 2007.

[17] L. Floridi (2006). Four Challenges for a Theory of Informational Privacy. *Ethics and Information Technology*, 8(3), 109–119.

direction of Actor Network Theory and the work of Dennett and Magnani are also suggested (Adam). Tavani suggests that IE's ability to resolve issues in privacy may be aided by taking up Tavani's own Restricted Access/Limited Control Theory of Privacy (RALC) – a suggestion that Floridi endorses. Finally, broader – indeed, global – resonances are discerned and elaborated with the naturalistic philosophy of Spinoza (Hongladarom).

In his responses, Floridi seeks to address first of all the charge of relativism; he further takes on board several of the suggestions for enhancing IE. Remaining criticisms are argued to rest on one or more misunderstandings of his work (most sharply, perhaps, those launched by Johnson and Miller).

One of the most important of these exchanges comes in Floridi's response to Capurro regarding the notion of "entropy" at the heart of his IE:

> Entropy in IE is *not* meant to refer to the thermodynamic concept nor to Shannon's equivalent measure at all. It is a metaphysical term and means Non-Being, or Nothingness. Metaphysical entropy is increased when Being, interpreted informationally, is annihilated or degraded.

This important clarification amplifies the point as made earlier in Floridi's work.[18] But the criticism raised and addressed here makes clear that an unfortunate confusion nonetheless lingers on regarding what 'entropy' means in the context of IE. In the face of this ongoing confusion and resulting criticism, the greater clarification Floridi provides here would thus seem to be both necessary and potentially very helpful to the further evolution of IE.

An equally important step is made here as Floridi acknowledges and endorses Hongladarom's elaboration of the crucial resonances between PI as an ontology and the major naturalistic philosophies of both West (in the first instance, Spinoza, but also, as Floridi points out in his response, Plato and Aristotle) and East (particularly Confucian and Buddhist thought). Floridi further connects the shared affirmation of the moral worth or goodness of being in these philosophies with the Divinity described in the first Genesis creation story who affirms the goodness of Creation at the end each day.

On the one hand, this elaboration reinforces Floridi's efforts to fend off the charge of relativism

and to clarify the meaning of entropy as used in IE and PI. At the same time, Hongladarom's suggested resolution via Spinoza to the problem of conjoining an ethical/global one with the diversity of multiple cultural and ethical traditions complements Floridi's earlier response to this problem as noted at the outset here – namely, his understanding of PI as offering a "lite ontology" – one that is shared in a "thin" way globally while simultaneously preserving the "thick" ontologies of local cultural traditions and ethical frameworks.[19] On the other hand, elaborating Floridi's PI and IE in these directions would seem to sharpen the already considerable differences between his ontology and ethics and those (including Heideggerian sources) funding Capurro's critiques and concerns regarding PI and IE.

Concluding comments

We believe that this special issue thus succeeds in its primary goals – first of all, of bringing forward some of the most important critiques and defenses of Floridi's PI and IE, and thereby evoking Floridi's thoughtful and careful responses, as these help highlight where he believes his critics have it right and, on occasion, where he argues they have it wrong. Between the various contributors and Floridi's initial comments and responses, the reader has in hand the most complete and careful exposition of Floridi's IE available, one that both acknowledges its strengths and resolutely takes on acknowledged deficits. Finally, in his responses, Floridi takes on board much of the various critical commentary in the constructive spirit their authors intend and seeks to refine and expand IE in the ways the critics argue is necessary.

In this way, we believe that this collection and the dialogue and debate it documents represents the philosophical enterprise at its best – namely, as a collegial but critical and rigorous debate among thinkers of diverse frameworks and persuasions, who

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[18] So Floridi writes in 2003, " …fighting information entropy is the general moral law to be followed, not an impossible and ridiculous struggle against thermodynamics …" ("On the Intrinsic Value of Information Objects and the Infosphere", *Ethics and Information Technology*, 4(4: 2003), 287–304, p. 300.).

[19] Floridi (2006). Indeed, there is a further resonance between Floridi and Hongladarom on just this point. Hongladarom argued as early as 1998 that the distinction between "thick" and "thin" – developed initially by Michael Walzer (1994) – could be used as a resolution to the potential problem of a culturally homogenizing Internet, one that would steamroll "other" cultures with its (then) overwhelmingly Western values and preferences. Briefly, Hongladarom argues, based on Thai experience with Western-style chatrooms, that we think of Internet culture as a global, cosmopolitan, but "thin" culture – one that need not threaten local "thick" cultures and the multiple differences that distinguish one culture from another (1998, pp. 196f.).

through their critique and response to one another bring us all forward in the development of Information and Computing Ethics – including, but by no means restricted to Floridi's IE as one of its most prominent constituents – that is urgently needed as ICTs continue their dramatic expansion in our lives and around the globe.

This by no means intends to say that the debates regarding IE are closed. On the contrary, there are clear junctures where the argument and development will most certainly continue. For example: whether or not Floridi's defense against the charge of ethical relativism – here, beginning with his response to Stahl's version of the critique – will satisfy Floridi's critics is now a crucial question. Similarly, it will be of value to learn whether Brey, and then Johnson and Miller will be persuaded by Floridi that their critiques of IE have missed the point. With regard to the central questions Burk raises concerning how far IE may fulfill all that is required for information law, Floridi responds with both agreement and a critical qualification – namely, that Burk, at least in part, demands more of IE than is appropriate for any ethical theory vis-à-vis the law. Floridi then offers at least a partial response to Burk's suggestion that important guidelines are needed. In this two-fold way, the debate between Burk and Floridi thus issues in important expansions of IE, ones that clearly invite still further debate, discussion, and, perhaps most importantly, development of IE in this central domain. Finally, it is by no means clear whether it is possible, much less how, one might bridge the considerable gaps between Floridi's IE and Capurro's own approach to ICE as deeply shaped by Heidegger. Certainly, interested readers will find additional points of difference and debate to pursue in further detail as well.

But of course, such unresolved differences alongside noteworthy progress is part of what makes our work together philosophy – an ongoing, always incomplete quest to develop a *logos* of the nature of things and how we are to comport ourselves therein. As both the Burk-Floridi exchange and Hongladarom's recognition of the resonances between Floridi's work and that of the naturalistic philosophers both East and West remind us – such work can demarcate progress of a certain sort: some questions and criticisms may be successfully answered – but at the same time, of course, new ones will arise. In this enterprise, often the best we get is resolution – just enough of a response that can survive rational critique at least long enough for us to resolve at least some pressing ethical dilemmas and then to move forward to confront new ones with some confidence. But of course,

further critique and response are necessarily evoked as well.

In that light, we hope that our readers will benefit from and enjoy both the robust philosophical substance and important new questions brought together here – and that both elements will be of use in our ongoing individual and collective philosophical ventures.

Acknowledgements

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