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Editorial Note

The Journal of Applied Ethics and Philosophy is an interdisciplinary periodical covering diverse areas of applied ethics. It is the official journal of the Center for Applied Ethics and Philosophy (CAEP), Hokkaido University. The aim of the *Journal of Applied Ethics and Philosophy* is to contribute to a better understanding of ethical issues by promoting research into various areas of applied ethics and philosophy, and by providing researchers, scholars and students with a forum for dialogue and discussion on ethical issues raised in contemporary society.

The journal welcomes papers from scholars and disciplines traditionally and newly associated with the study of applied ethics and philosophy, as well as papers from those in related disciplines or fields of inquiry.

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Editor-in-Chief

How Applied Should Applied Ethics Be? ¹

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Abstract

How applied *should* applied ethics be? I take up that question not because it belongs to the past of applied ethics (though it does), but because, given the present, it seems likely to be a part of the future of applied ethics as well. Consider, for example, a recent debate in the journal *Bioethics*: One of the four papers was titled, “Why Moral Philosophers Are Not and Should Not Be Moral Experts”; another, “Moral Philosophers Are Moral Experts!” In that debate, a “moral expert” was a philosopher who used his knowledge of philosophy to speak with authority on practical questions. In the course of answering my question, I make a number of distinctions: between ethics-as-practice and ethics-as-theory; between ethics-as-morality, ethics-as-a-field-of-philosophy, and ethics-as-special standards; and so on. Having thereby narrowed my question to: *what can ethics-as-a-field-of-philosophy properly contribute to moral practice?* I answer that ethics-as-a-field-of-philosophy can contribute much to moral practice, but only by maintaining a certain distance from it. For example, experts in ethics-as-a-field-of-philosophy—or even experts in all of philosophy—should not on that basis alone undertake to advise on questions of ethics-as-morality or ethics-as-special-standards. Practical experience has something to teach that is not philosophy—sensitivity to context, know-how, judgment, or the like.

Key words: moral experts, biomedical ethics, applied ethics, moral expertise, judgment

The role of the moral philosopher is not the role of the preacher, we are told. But why not?

—Peter Singer, “Moral Experts”, *Analysis* 32 (1972): 115-117, p. 115

*Long-haired preachers come out every night
Try to tell you what's wrong and what's right*

—Joe Hill, “The Preacher and the Slave”, 1911

How applied *should* applied ethics be? I address this

question not because it belongs to the past of applied ethics (though that forty-year-old quotation from Peter Singer shows that it does), but because, given the present, it also seems likely to belong to the future of applied ethics, a perennial threat to its moral integrity. Consider, for example, a recent debate in the journal *Bioethics*: One of the four contributions was titled, “Why Moral Philosophers Are Not and Should Not Be Moral Experts”; another, “Moral Philosophers Are Moral Experts!” All four contributions treated moral expertise as (in part) authority to tell people what they should do (“what’s wrong and what’s right”). For all four, the central question was what moral philosophers should (or, at least, can) do with their expertise in applied ethics.²

¹ Previous versions of this paper were presented at the Humanities Colloquium, Illinois Institute of Technology, on October 7, 2016, and at the 10th International Conference on Applied Ethics, Hokkaido University, Sapporo, Japan, October 28, 2016. I should like to thank those present, as well as Geoff Holtzman and one reviewer for this journal, for their comments.

² Bernward Gesang, “Are Moral Philosophers Moral Experts?” *Bioethics* 24 (2010): 153–159; David Archard, “Why Moral Philosophers Are Not and Should Not Be

“Applied ethics” may be used for one of several entities or activities depending on how “ethics” and “applied” are understood—and philosophers, ethicists, and others who claim to “apply ethics” are far from agreeing on how those terms should be understood.³ So, before I address directly the question posed in this paper’s title, I should say how I understand those terms and why understanding them as I do is likely to be a good way, though perhaps not the only good way, to approach that question.

Ethics

I usually distinguish three senses of “ethics” before entering a discussion in which that term has a significant part: ethics-as-ordinary-morality; ethics-as-special-standards-of-conduct; and ethics-as-a-field-of-philosophy. I do that to avoid the confusion that commonly follows when a writer uses one sense while readers understand another. So, let us consider what “applied” might mean if prefixed to each of these senses.

If morality consists of universal standards of conduct (rules, principles, ideals, precedents, and the like governing all reasonable persons), then applied ethics-as-morality would be the use of those standards in specific situations, in order to guide practice, for example: “Since it is always morally wrong to kill the innocent, and this person is innocent, killing this person is morally

wrong.”⁴ Here a moral standard (“it is always morally wrong to kill the innocent”) is “applied”, that is, provides the major premise, in an argument in which a certain fact (this person being innocent) is the minor premise. The conclusion concerns practice (what it would be morally wrong to do). Though this example of applying ethics-as-morality is deductive, it need not have been. An application can rely on a looser relation between premises and conclusion than deduction, for example, probability, analogy, or inference to the best explanation.

Using “ethics” as a synonym for “morality” seems to be a reasonable way to use the “ethics” in “applied ethics”—even if that use should make us wonder why the field is not instead called “applied morality”. In fact, some fields of applied ethics, such as biomedical ethics or environmental ethics, seem to be predominantly applied morality in this sense. They typically appeal to ordinary moral standards, such as justice or beneficence, to resolve (or, at least, help resolve) practical problems.⁵ The word “ethics” adds little—or nothing.

If, however, we understand morality as the *practice* in which moral standards have a central part, morality itself would be so applied that the “applied” in “applied ethics” would be redundant. Morality-as-practice must always be applied. The implied contrast with “unapplied morality” (however understood) is lost.

Much the same is true of ethics-as-special-standards, that is, those morally binding standards of conduct that apply to members of a group (a group not including all moral agents) simply because they are members of that group: accounting ethics, engineering ethics, research ethics, and so on. If “ethics” in this sense is understood as the standards themselves, then applied ethics-as-special-standards would be the application to particular situations of those standards (standards contained in, for example, the code of ethics of a profession, research community, or other group). “Ethics” in this sense adds information that “morality” does not, the relevance of special standards. If, however, we understand ethics-as-special-standards as the practices in which such standards are central (such as the practice of the legal profession), then “ethics-as-special-standards” would—like “ethics-

Moral Experts”, *Bioethics* 25 (2011): 119–127; Christopher Crowley, “Expertise, Wisdom and Moral Philosophers: A Response to Gesang,” *Bioethics* 26 (2012): 337–342; John-Stewart Gordon, “Moral Philosophers Are Moral Experts! A Reply to David Archard”, *Bioethics* 28 (2014): 203–206; and references they cite. There is a similar debate about political experts. See, for example, Steven Wall, “Public Reason and Moral Authoritarianism”, *Philosophical Quarterly* 63 (January 2013): 160–169; or Daniel Viehoff, “Authority and Expertise”, *The Journal of Political Philosophy* 24 (December 2016): 406–426, and references cited there. And about experts in general. See, for example, Alvin I. Goldman, “Which Ones Should You Trust?” *Philosophy and Phenomenological Research* 63 (July, 2001): 85–110.

3 For some sense of the varied ways in which “applied ethics” is used, compare: Seumas Miller, “Research in Applied Ethics: Problems and Perspectives”, *Philosophia* 37 (2009): 185–201; Fritz Allhoff, “What Are Applied Ethics?” *Science and Engineering Ethics* 17 (2011): 1–19; Torbjörn Tännsjö, “Applied Ethics: A Defence”, *Ethical Theory and Moral Practice* 14 (2011): 397–406; Onora O’Neill, “Applied Ethics: Naturalism, Normativity and Public Policy”, *Journal of Applied Philosophy* 26 (2009): 219–230; and Bonnie Steinbock, “How Has Philosophical Applied Ethics Progressed In the Past Fifty Years?” *Metaphilosophy* 44 (January 2013): 58–62.

4 Of course, if one is a moral relativist, the standards in question would be universal only with respect to the society in question, not with respect to all rational persons. But there would still remain a distinction between that sort of standard and the special standards I shall soon distinguish. It is also worth pointing out that “morality” here is not merely what people happen to think is morally right or wrong (an empirical fact) but those standards they would endorse when they are at their reasonable (an idealized version of the standards people routinely cite).

5 Compare Tom L. Beauchamp, “History and Theory in ‘Applied Ethics’”, *Kennedy Institute of Ethics Journal* 17 (March 2007): 55–64.

as-morality” in the corresponding sense—already be so applied that the prefix “applied” would be redundant.

Applied ethics in either of the non-redundant senses just identified is not without difficult questions. For example, what are we to do when more than one standard applies, when a standard applies without giving a clear resolution, when an applicable standard is disputed, or when we lack enough information to know whether or not a particular standard applies? Such questions may, however, be dealt with using casuistry, hermeneutics, reflective equilibrium, or the like interpretive strategy. Such questions are the friction of ordinary practice. They need not have much to do with our question: *how applied should applied ethics be?* The third sense of “applied ethics”—ethics-as-a-field-of-philosophy—plainly does.

Ethics-as-a-field-of-philosophy is (more or less) the attempt to understand morality, including ethics-as-special-standards, as a reasonable practice. Ethics in this sense, whether understood as an intellectual pursuit or a community of pursuers, is not morality but *about* morality, an exercise in theory or (what Kant called) “speculative reason”, not “practical reason”. It is “pure” rather than “applied”. The philosophy ends when the desired understanding is achieved. Hence, the very idea of *applied* ethics-as-a-field-of-philosophy must seem (and perhaps be) deeply problematic. The problem is both old and general to philosophy, not limited to ethics-as-a-field-of-philosophy. Plato’s Cave remains the classic statement of that problem: What *can* we do with the understanding achieved in the bright sun of pure reason (theory) when we return to the dim, many-shadowed cave of ordinary life (practice)?

Of course, Plato’s problem is more philosophical than practical. In practice, we teach “theory” (that is, ways of understanding) to future practitioners and, all things considered, they seem better practitioners as a result. That improvement in practice is one reason, probably the chief reason, that most countries spend large sums to maintain universities and fill them with students who, upon graduation, work in accounting, computer science, medicine, or another useful endeavor, where they seem to translate theory into practice, not only philosophical theory but also accounting theory, programming theory, medical theory, or the like. The interesting philosophical question Plato raised is how that is possible.

Though Plato’s question remains open, it is not our question. Our question might now be restated as this more modest (and practical) one: *what can ethics-as-a-field-of-philosophy properly contribute to moral practice?* My answer is that ethics-as-a-field-of-philosophy can contribute much to moral practice, but only by maintaining a certain distance from it. For example, experts in ethics-as-a-field-of-philosophy—or even experts in all of philosophy—should not on that basis alone undertake to advise on questions of ethics-

as-morality or ethics-as-special-standards. The Cave has something to teach that is not philosophy—know-how, sensitivity to context, judgment, or the like.⁶ We must turn now to the second ambiguous term in “applied ethics”—“applied”. What is it to apply ethics-as-a-field-of-philosophy?

Applied

We may distinguish at least seven ways in which ethics-as-a-field-philosophy might be said to be applied: 1) clarification of terms affecting moral practice; 2) analysis of arguments affecting moral practice; 3) systemization of arguments affecting moral practice; 4) invention of arguments relevant to moral practice; 5) big ideas about moral practice; 6) use of the products of the forgoing by non-philosophers in moral practice; and 7) use of the foregoing by philosophers in moral practice. Let us briefly consider these in order.

1. **Clarification.** Much that goes by the name “applied ethics” has been undertaken to clarify the language of public debates concerning moral practice.⁷ Observing a public debate concerning moral practice that seems confused because participants use a significant term loosely or in several unacknowledged ways, a philosopher might offer a definition or a distinction (a set of related definitions), hoping to clear up what the debate is about and thereby help those participating in the debate to identify what, if anything, actually divides them. Among terms that have recently received such philosophical treatment are: “coercion”, “conflict of interest”, “informed consent”, “person”, “race”, “terrorism”, and “war”. Philosophers have, of course, also discussed the merits of this or that definition and proposed alternatives. In one respect, clarification of such terms is an application of ethics-as-a-field-philosophy, that is, philosophers use knowledge, skill, or judgment sharpened in ethics-as-a-field-of-philosophy to achieve a clarity others did not. They seek to understand the terms of public debate as they clarify them. In another respect, however, this activity is not an application of *ethics-as-a-field-of-philosophy*. In general, the clarifications do not exist in ethics-as-a-field-of-philosophy waiting to be applied. They are created for a practical purpose,

6 For more on judgment and related concepts, see Michael Davis, “A Plea for Judgment”, *Science and Engineering Ethics* 18 (December 2012): 789-808.

7 Of the remainder, some of what is called “applied ethics” seeks to help with the problems of individuals (as in, for example, philosophical counseling or medical consultation) and some with questions that might become matters of public debate but have not yet (such as the morality of plural marriage or designing humans to be immortal).

the clarification of a public debate. That is one reason that many philosophers prefer to describe what they do as “practical ethics” rather than “applied ethics”. While they may be applying philosophical knowledge, skill, or judgment, they are not applying ethics-as-a-field-of-philosophy. They are, instead, adding to that field, applying methods common to philosophy as a whole or, less often, results from another field of philosophy, such as metaphysics or philosophy of law.

2. **Analysis of arguments.** Much the same is true of the analysis of arguments. The arguments philosophers typically analyze when they do applied ethics are not arguments belonging to philosophy but arguments belonging to a public debate concerning moral practice, for example, the argument against abortion relying on the premise that the fetus is a person from the moment of conception. What philosophers do is try to state the argument as fairly as possible, clarify crucial terms, fill in tacit premises, identify the argument’s strengths and weaknesses, and so on. While doing that, a philosopher may contribute to ethics-as-a-field-of-philosophy, for example, to understanding the concept of person as a moral category. But there is no *application* of ethics-as-a-field-of-philosophy as such to the analysis of the argument in question. What is applied is primarily philosophy’s general methods of analyzing arguments, though occasionally it is a method drawn from another field of philosophy.

3. **Systemization.** A moral theory is (in large part at least) the systemization of certain moral arguments, including related definitions, into an enlightening whole. *Moral theory*, that is, the field containing all moral theories, including their criticism and defense, seems to be the core of ethics-as-a-field-of-philosophy. There are many criteria of adequacy for moral theories: internal consistency, coherence with what we know of the natural world, and so on. One of these criteria of adequacy is that the theory be (relatively) determinate, that is, that it give answers to most, if not all, significant questions put to it concerning how we should act. Another criterion is that the answers the theory gives should (in general at least) be plausible. It is in the context of showing that a theory does, or does not, satisfy the criterion of determinacy or plausibility that the philosophical discussion of theory may seem to join a public debate: a philosopher will apply the theory to a public debate, for example, use the theory as the major premise in an argument about when abortion is morally permissible. While this is applied ethics-as-a-field-of-philosophy in some sense, it is, strictly speaking, not applied ethics as commonly understood. The philosopher is merely showing that her preferred theory is determinate or plausible in the exemplary case. The application is a mere byproduct of the philosophy, not an attempt to contribute to a particular public debate. An example from

another public debate might have served just as well.

4. **Invention of arguments.** The line between analyzing old arguments and inventing new ones is fuzzy. Sufficiently analyzed, what began as an old argument may not only seem new to those participating in the debate where it has long been used but actually be used in startlingly new ways or with startlingly new force. Though old (in some respects), the argument will also be new, at least in consequences drawn. Nonetheless, in addition to this sort of invention by analysis, philosophers may now and then actually add to the stock of arguments. Consider, for example, Sally Markowitz’s argument that women have a moral right to abortion until they have the moral equality that the current sexist society denies them.⁸ Whatever its merit, Markowitz’s argument certainly seems more than an improved version of an old one.

Inventing arguments about moral practice is part of ethics-as-a-field-of-philosophy—or, rather, it is if the invented arguments are designed at least in part to convince other philosophers. But, being new, such arguments cannot be mere *applications* of ethics-as-a-field-of-philosophy. Indeed, they cannot be mere applications of philosophy of any sort, however much they rely on pre-existing methods, analogies with old arguments, or the like. Invention always adds to what exists. Still, newly invented arguments are examples of applied ethics in a straightforward sense, that is, they both concern moral practice and augment ethics-as-a-field-of-philosophy.

5. **Big ideas.** For an analytic philosopher like me, much that passes for the history of philosophy is an embarrassment, consisting (as it does) of “big ideas” beside which the definitions, arguments, and systemizations just described seem no more than unimportant details.⁹ Big ideas, such as Plato’s Cave, have an appeal independent of any particular definition, argument, or theory. They seem to be much of what attracts students to philosophy.¹⁰

What is true of philosophy in general is certainly true of ethics-as-a-field-of-philosophy. Among the big ideas of ethics-as-a-field-of-philosophy are: care, the categorical imperative, practical wisdom, the social contract, and utility. While such ideas seem to

8 Sally Markowitz, “A Feminist Defense of Abortion”, *Social Theory and Practice* 16 (Spring 1990): 1-17.

9 Compare Richard Rorty, “Universalist Grandeur and Analytic Philosophy”, *The Hedgehog Review* 18 (Summer 2016): 63-75.

10 Think, for example, of Will Durant, *The Story of Philosophy* (The Pocket Library, 1954), with its “lives and opinions of the world’s greatest philosophers from Plato to John Dewey”, one of several books that together attracted me to philosophy.

help philosophers shape their particular definitions, arguments, or theories in ways they might not have shaped them otherwise, the big ideas have only a modest place in philosophy itself. They are primarily part of the scaffolding of thought, something to be taken down by the time a definition, argument, or systemization is completed. Big ideas are seldom, if ever, what ethics-as-a-field-of-philosophy offers practice. What philosophy as such, including ethics-as-a-field-philosophy, ordinarily offers practice are definitions, arguments, and systemizations.

6. **Use by non-philosophers.** Philosophers typically have students, both the official students who sit in their classes and the unofficial students who read what philosophers write or hear from the philosopher's official students. Typically, neither type of student will have a deep understanding of a philosopher's work. Indeed, even other philosophers may not. That is one reason why, for example, more than a century after publication, central features of Kant's or Mill's moral theory are still controversial among philosophers. What students typically take from philosophy, if they take anything, are the big ideas, a philosopher's special way of seeing the world. From Kant, for example, they may learn to try to do what is morally right whatever the actual or probable consequences; from Mill, to do what gives the best consequences whatever ordinary morality may say; and so on. "The great philosophers" seem to be those whose big ideas catch on with non-philosophers, leaving behind all the fine distinctions and delicate arguments with which the philosopher originally hedged them. What Bismarck said about making sausage and statutes may also be true of much of the application by non-philosophers of ethics-as-a-field-of-philosophy, for example, in a hospital ethics committee or corporate ethics office: for philosophers at least, it is better not to see.¹¹ Application by non-philosophers, though common and often beneficial, is only the application of ethics-as-a-field-of-philosophy in an analogical or degenerate sense. Philosophy's special contribution to understanding is missing. What is applied is more like a poetic image or pedagogue's heuristic than philosophy.

7. **Use by philosophers.** Philosophers can enter a public debate concerning moral practice either as philosophers or as ordinary participants. I will soon consider participation as philosophers, that is, as recognized experts of a certain sort. Right now I want to consider philosophers as ordinary participants, that is, as participants with no special status. They enter the

debate as philosophers only insofar they use whatever they have learned from philosophy, for example, how to formulate their arguments more clearly than they would have were they in some other discipline. This, it seems to me, is an unproblematic kind of participation. But, because it does not rely on the authority of philosophy, it is the participation that a non-philosopher might also be capable of, having sharpened her skills in a philosophy class. The public can take it for what it seems to be worth—independent of its undisclosed origin in philosophy. It does not seem to be applied ethics-as-a-field-of-philosophy in a sense relevant to our question.

Experts

So far, I have treated applied ethics primarily as a *field* of philosophy, that is, as a set of questions, methods, and proposed answers. We can also treat applied ethics as a *community*, that is, as all the individuals working in that field, a group sharing certain interests and practices. If an expert is someone recognized as able to do certain things for others that not everyone can, for example, provide specialized information or replace a defective heart, then members of the philosophical community are typically experts in some part or all of philosophy.¹² Experts in ethics-as-a-field-of-philosophy might contribute to a moral practice, such as public debate concerning social policy, for example, by writing popular articles, serving on a government commission, or acting as a corporation's ethics officer. They would act as experts insofar they have special (epistemic) authority because they are supposed to draw (and typically do draw) on ethics-as-a-field-of-philosophy when they contribute (or at least try to contribute) to moral practice.¹³ Such experts might contribute to moral practice in at least one of four ways (other than as ordinary participants). They might contribute as resource, counselor, adviser, or decision-maker.

1. **Resource.** For our purposes, a resource is an individual called upon as needed to provide information or tools. A philosopher is a resource in applied ethics if she has knowledge or skill in ethics-as-a-field-of-philosophy (beyond what most people have) so that she can, for example, authoritatively answer a question

11 What Otto von Bismarck (1815-1898), a famous German politician, said (or, at least, is commonly believed to have said) is, "Laws are like sausages, it is better not to see them being made." https://en.wikiquote.org/wiki/Otto_von_Bismarck (accessed May 8, 2017).

12 For a fuller definition of "expertise", see Michael Davis, "On the Possibility of Ethical Expertise", *International Journal of Applied Philosophy* 29 (Spring 2015): 71-84.

13 Thinking of applied ethics as a community (as well as a field) also makes the question of expertise in morality political (as well as epistemic). For more on this point, see Joan C. Tronto, "Who is Authorized to Do Applied Ethics? Inherently Political Dimensions of Applied Ethics", *Ethical Theory and Moral Practice* 14 (2011): 407-417.

about a moral theory (“What does Augustine’s theory of virtue say about this?”), tell what ethics-as-a-field-of-philosophy has to say about a certain concept or argument, or even use skill developed in ethics-as-a-field-of-philosophy to provide a new definition, argument, or systemization. Serving as such a resource in deliberation concerning moral practice should, it seems, count as applying ethics-as-a-field-of-philosophy, even though it is not telling anyone what to do (or what it is right or wrong to do). It is “applied ethics” in the relatively uncontroversial sense of bringing the content of ethics-as-a-field-of-philosophy to moral practice.¹⁴ Serving as a resource in this way is also, I think, close to what philosophers often do when they teach. It is, then, something philosophers certainly can do.

Of course, other disciplines can also provide moral practice with resources. A social scientist can provide information about such empirical matters as what people believe is or is not moral; a physician can provide information about the likely medical consequences of a certain social policy; and so on.¹⁵ Philosophers are definitely not the only resource likely to be helpful when someone is trying to choose a course of action. Philosophers are also not the only resource that can be ignored. It is therefore worth noting that *a resource brings information or tools to practice, that is, to the threshold of practice*. Whether what is brought to practice ever *affects* practice, that is, actually gets applied in practice, is generally beyond the resource’s control.

2. **Counselor.** While a counselor may serve as a resource, what distinguishes a counselor from a mere resource is that she is supposed to ask helpful questions, not just provide information or tools.¹⁶ A counselor seeks to guide deliberation in ways that those counseled should find useful or at least enlightening. What counselors do is, in this respect at least, close to what philosophers do when they teach in the Socratic style. They help the people counseled structure their thinking about conduct, leaving it to the counseled to answer the practical questions (for example, “What should we do?”). So, like serving as a resource, counseling seems a

relatively unproblematic form of applied ethics, a natural extension to (non-philosophical) practice of ethics-as-a-field-of-philosophy. Counseling is certainly something philosophers can do.

3. **Adviser.** For our purposes, advisers differ from counselors in at least one important way: advisers may—and typically do—explicitly recommend, condemn, rank, or otherwise judge courses of action.¹⁷ The practical judgment of an adviser, though typically carrying weight with the person advised, leaves him free to do what he thinks best. Advisers do not command those they counsel or even act for them. What they do may nonetheless seem problematic for philosophers as such. Advisers typically go beyond what philosophers do when they teach. Advice seems to presuppose *practical* knowledge, skill, or judgment for which philosophy as such cannot vouch. What can? The obvious answer is that the philosopher in question must have regularly given good advice in the past (“good” here meaning satisfying whatever interest the advisee sought to serve when she sought advice or, at least, whatever interest she should have sought to serve). But there is a problem with this obvious answer. It presupposes that the philosopher has given advice before success could vouch for it. What could vouch for an adviser’s expertise before the success of past advice could do that? We must, it seems, look for less obvious ways to evaluate the advice, for example, by the adviser’s success in analogous parts of his own life, by the number of alternatives he considered, by the sophistication of the reasons he gave in support of what he recommended, or by the self-evident good sense of the advice itself.¹⁸

That philosophers can give practical advice seems obvious. It is one of the things they seem to do when, for example, they serve on a government commission. That the advice of philosophers is *often* good may also seem obvious. But that is not the question. The question now is whether mere status as a philosopher or expert in ethics-as-a-field-of-philosophy entitles one to any special authority as adviser. I think not. We seem to lack

14 Compare Bruce D. Weinstein, “The Possibility of Ethical Expertise”, *Theoretical Medicine* 15 (1994): 61-75.

15 Ruth Chatham, “What is ‘Applied’ in Applied Ethics?” *Journal of Applied Ethics and Philosophy* 1 (2009): 1-7.

16 Shunzo Majima reminded me that there are also people called “counselors” who merely listen. I ignore such counselors here for at least three reasons: 1) because they are more accurately described as “listeners”, “sounding boards”, or the like, since they do not offer counsel; 2) because what they do is *not* what philosophers typically do; and 3) because, if just listening were what philosophers sometimes did, such “counseling” would be even less problematic than the Socratic questioning I have in mind, since (almost) anybody can listen.

17 From Joe Hill’s perspective (that of a non-believer), a preacher is a kind of adviser, typically one whose advice is unsought—and unwelcome (a possibility Peter Singer seems to have missed); but, from the perspective of someone belonging to the same religious tradition, a preacher can be a resource, reporting what the tradition, properly interpreted, would have to say on a practical question under discussion.

18 The self-evidence I have in mind is, I think, unobjectionable. For two examples (the commode and the air conditioner), see Arthur L. Caplan, *If I were a rich man could I buy a pancreas? And other essays on the ethics of health care* (Indiana University Press, Bloomington, 1992), p. 4 (though these are, I think, both technically examples of counseling rather than advising, their self-evident good sense is plain enough).

evidence that experts in ethics-as-a-field-of-philosophy in particular, much less experts in philosophy in general, are, as such, good advisers on questions of moral practice. Philosophy as such trains for understanding, not for advising.¹⁹

4. **Decision-maker.** Decision-makers answer the practical question before them with an action, not just with information, counsel, or even advice. The decision-makers we are interested in here have power over others; they can command others, as military officers do, or at least act for others, as a surgeon does during an operation. Insofar as decision-makers are also philosophers, they are the equivalent (more or less) of Plato's philosopher-kings. Among recent notable examples of philosopher-kings is Kiyokazu Washida who, after many years in clinical philosophy and ethics, served as President of Osaka University, 2007-2011.²⁰ I do not know what part philosophy-derived knowledge, skill, or judgment had in his success as a decision-maker. What I do know is that no country in the world draws many decision-makers from the ranks of philosophers, not even from the ranks of experts in ethics-as-a-field-philosophy. What is true now seems to have been true for all of recorded history. I now want to consider why that should be.

19 Insofar as "ethicists" are taught to advise, not just understand, they are being trained in a discipline other than philosophy. We may then expect the future of applied ethics to include the separation of ethicists from philosophers, much as the past century or so saw the separation of psychologists and linguists from philosophers.

20 https://en.wikipedia.org/wiki/Kiyokazu_Washida (accessed June 11, 2016). I owe this example to Shunzo Majima who also informed me of another Japanese "philosopher-king": Hisatake Kato, a Hegelian and Professor of Ethics at Kyoto University, who introduced applied ethics in Japan, before becoming President of Tottori University of the Environment. There are a few living examples in America as well, though none quite so good. The best is Amy Gutmann who, along with many respected publications in ethics-as-a-field-philosophy, has successfully served as President of the University of Pennsylvania since 2004. Though my best example, she is not a particularly good one. All her degrees are in political science, not philosophy, as are all her academic appointments. If she is a philosopher (rather than a political theorist), she is one only because philosophers have adopted her. Miles Brand, President of Indiana University, 1994-2002, would, for our purposes, be a better example of a recent philosopher-king—except that his work was in metaphysics and epistemology, not ethics.

Should

Having worked out what the relation of applied ethics to practice *can* be, we may now return to our original question, that is, what the relation of applied ethics-as-a-field-of-philosophy to practice *should* be. Unfortunately, "should" is as ambiguous as the two other terms of that question. There are at least four senses relevant here: the "should" of expectation ("That scratch should hurt"); the "should" of skill ("Here's how you should show an argument to be valid"); the "should" of prudence ("If you want happiness, you should aim for it"); and the "should" of morality ("You should save that drowning child").²¹ Let us consider these four ways of interpreting our original question—in that order.

Aristotle is supposed to have written a work, now mostly lost, *On Kingship*, in which he criticized Plato for advocating philosopher-kings:

it [is] not merely unnecessary for a king to be a philosopher, but even a distinct disadvantage. What a king should do [is] listen to and take the advice of true philosophers. In doing so he would enrich his reign with good deeds and not merely with fine words.²²

Aristotle seems to have thought that philosophers—or, at least, "true philosophers"—should be mere academics, limited to "fine words". They should not, as such, expect to perform "good deeds" (beyond the good deeds we call "fine words"). They certainly should not rule. A number of other philosophers since have said much the same.²³

21 Among other senses of "should", two deserve at least a mention here: the "should" of law (what, according to law, one should do) and the "should" of sociability (what, according to society, one should do). I shall say no more of these two senses of "should" here because our question does not seem to concern either what the law requires of us or what society asks of us. I would like to thank Ryo Chonabayashi for reminding me of these senses.

22 Anton-Hermann Chroust, "Aristotle's Criticism of Plato's 'Philosopher King'", *Rheinisches Museum für Philologie* 111 (1968): 16-22.

23 Marx may seem an exception because his *Theses on Feuerbach* includes the famous XI: "Philosophers have only interpreted the world in various ways; the point is to change it". I am, however, skeptical about the claim that Marx is an exception. After all, Marx did not say that changing the world is the point *for philosophers*. Perhaps it is only the point for people in general. Marx might also have added that philosophers, as such, can change the world by helping others to see it in new ways, for example, by helping them see how changing the world for the better is possible. That was in fact something Marx attempted.

Here, for example, is Kant on that subject:

That kings should philosophize or philosophers become kings is not to be expected. Nor is it to be wished, since the possession of power inevitably corrupts the untrammelled judgment of reason. But kings... should not suffer the class of philosophers to disappear or to be silent, but should let them speak openly. This is indispensable to the enlightenment of the business of government...²⁴

The argument justifying the separation of philosophy and kingship seems clear enough: The philosopher as such offers the “untrammelled judgment of reason”, a product of the attempt to understand a practical question uncorrupted by the possession of power. Such understanding can enlighten the business of government. In contrast, the king (that is, anyone tasked with making decisions for others) must exercise practical wisdom, a judgment “the possession of power” necessarily influences—and, in a sense, “corrupts”, that is, mixes with impurities, the accidents of practice. What distinguishes philosopher from king is, then, not a mere difference but a fundamental opposition. The philosopher should keep a certain distance from practice, enough to keep his reason “untrammelled”.²⁵ Because the king must be fully involved in practice, taking all relevant considerations into account when he acts, he must give up philosophic distance, the clarity of theory, for the useful compromises of practice. The king who is his own philosopher has a fool for a sovereign.²⁶

This is, it seems, a plausible claim, though empirical and itself deserving a paper. But, if we assume its truth, we have an answer to the question, “How applied should applied ethics be?”—where the “should” is the “should” of expectation. We should expect experts in applied ethics-as-a-field-of-philosophy, being philosophers, to serve as resources or counselors on moral questions because philosophy, including teaching philosophy, prepares them for that. We should also expect them to serve as advisers now and then, that is, when—owing

24 Immanuel Kant, *Perpetual Peace*, Second Supplement, “Secret Article for Perpetual Peace” (The Library of Liberal Arts, 1957), p. 34.

25 Compare Mike W. Martin, “Professional Distance”, *The International Journal of Applied Philosophy* 11 (1997): 39-50. Note that the “distance” I emphasize is not (primarily) psychological but organizational, the avoidance of certain situations rather than a “hardening of the heart” that Martin emphasizes.

26 This is, of course, an adaptation of the old legal saying, “The lawyer who represents himself has a fool for a client.” The saying makes the equivalent point about “professional distance” in law that I am making about the distance a philosopher needs to give good advice.

to other experience—they can successfully combine philosophical understanding with practical judgment of the appropriate sort. What we should not expect is that philosophers *as such* should be decision-makers for others (that is, command or otherwise act for them). We should not expect even those who are good at giving advice (“true philosophers”) to be the same people as those who are good at choosing which advice to act on (“kings”).

We also have an answer to our original question where the “should” is the “should” of skill or prudence. An adviser who is a philosopher should be careful to keep his distance from decision, for example, preferring to advise in secret or as part of a committee rather than in public or as an individual. As much as possible, a skilled philosopher-adviser will avoid having “his own skin in the game”. A decision-maker should equally keep her distance from the process out of which advice emerges. A prudent decision-maker will, for example, avoid “incentivizing” a philosopher-adviser in a certain direction. Since it is prudent for those who seek advice to seek it from those most likely to give the best advice, the prudent decision-maker will, all else equal, seek among philosophers those advisers who keep a reasonable distance from the consequences of their advice. So, for example, the prudent decision-maker will not, all else equal, take advice from an philosopher who would benefit personally from recommending one course of action rather than another. It therefore seems prudent for philosophers to avoid becoming “kings”—or, at least, to find others to advise them when they do. Even the wisest decision-maker needs advisers whose judgment is independent of the biases that responsibility for decision imposes or at least risks.²⁷ There is much to be said for the much-maligned “ivory tower”.

Which brings us to the moral interpretation of our original question. Clearly, it is morally wrong to use the claim of expertise in ethics-as-a-field-of-philosophy to justify making decisions for others. The very credential supposedly justifying the philosopher-king making such decisions (his status as philosopher) vanishes as soon as he undertakes to make such decisions. To justify making decisions for others by appeal to one’s status as a philosopher is to offer no justification at all. To exercise power over others without a good justification is, all else equal, morally wrong.

27 This concern about independent judgment suggests a close connection between what I have said about why philosophers should keep a certain distance from decisions on which they advise and the more general discussion of why advisers (and decision-makers) should avoid conflicts of interest. For more, see Michael Davis, “Conflict of Interest”, *Encyclopedia of Applied Ethics*, ed. Ruth Chadwick (Academic: San Diego, 1997), 589-595.

Is it also morally wrong to justify *advising* a decision-maker based even in part on a claim of expertise in ethics-as-a-field-of-philosophy? The answer to that question seems to be: it depends on how close the adviser is to the decision. If the philosopher maintains enough distance from the decision on which she advises, she may be morally justified in citing her expertise in ethics-as-a-field-of-philosophy as part (but only part) of her credentials for serving as an adviser. If, however, she is too close to the decision on which she is advising, she should not cite (or otherwise rely on) her expertise in ethics-as-a-field-of-philosophy. For example, a philosopher who knows in advance that her advice will be taken should not advise—or, at least, should point out that she cannot claim to be acting as a philosopher. She is, in effect, the decision-maker; she is therefore too close to the decision to claim the authority of philosophy. How close is too close is, of course, contingent on circumstances.

Conclusion

Insofar as we think of ethics as a *field* of philosophy, ethics *cannot* be applied to ordinary practice; philosophy as such is never practical. Within philosophy, applied ethics is merely a field of philosophy close to ordinary practice—an attempt to understand the reasonableness of a certain part of that practice, the application of morality to particular decisions. What brings applied ethics-as-a-field-of-philosophy close to practice is its focus on clarification of terms used in moral practice, analysis of arguments used in moral practice, and systemization of those arguments. Ethics-as-a-field-of-philosophy can make sense of moral practice without affecting it.

Ethics-as-a-field-of-philosophy can affect moral practice only through the medium of experts in the field. A philosopher who is expert in applied ethics-as-a-field-of-philosophy may serve as a resource, counselor, or adviser on practical questions.²⁸ Ethics-as-a-field-of-philosophy enters practice only when those seeking resources, counsel, or advice apply to practice what philosophers offer them. What philosophers should *not* do, while claiming the authority of philosophy, is command others, act for them, or advise them in circumstances in which they are reasonably sure that the advice will be taken. A philosopher can, of course, become a successful decision-maker (as Professor Washida did). What philosophers cannot do, while

making those decisions, is rightfully claim the authority of philosophy for those decisions. Ethics-as-a-field-of-philosophy should not be applied in that way. Much of the discussion of the role experts in philosophy should have in practice rests on a mistake. Neither philosophy as such nor ethics-as-a-field-of-philosophy gives an expert the moral or epistemic authority to tell people what to do all things considered.²⁹

28 Philosophers outside the field of ethics may also serve as advisers on moral practice—but, all else equal, are not going to be as expert. Of course, much depends on personality, experience, chemistry with advisee, and so on, considerations we may ignore here.

29 For example, Gesang, p. 153, argued that because moral philosophers are expert in moral philosophy, “the doctors and the lawyers of the council [should] dispense with their moral judgements because the [philosophers] see it differently and thus reveal them to be mistaken”. Philosophers with that much authority would seem to be too much like decision-makers for their advice to deserve the authority of philosophy. It is a mistake to understand philosophic expertise that way.

Forms of Organizing Human Society Inspired by Technological Structures

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Abstract

Fundamentally, any system consists of objects and relationships between these objects. A major goal in 'systems theory' concerns the systematic discovery of general patterns or principles that are broadly applicable across a wide range of domains. From this perspective, we investigate the patterns and other relationships that may emerge between computer networks and organizations of human society. Our investigation emphasizes not only that computer networks reflect human society in various ways, but also that new ways of organizing human society inspired by technological structures may be emerging.

Key words: technology, society, organization

1. Introduction

This paper contributes to our ongoing work in computer science, artificial intelligence (AI), information study, and new media study (Schuster 2007; 2008; 2009; 2011).¹ More specifically, the paper is on the interface between the aforementioned areas and the domains of the social sciences and the humanities. From a bird's-eye view, the paper is motivated from observations, in our previous work and elsewhere [e.g., in Caldarelli and Catanzaro (2012), or Kadushin (2012)], that there is a rich and profound interplay between computers and humans that may require some attention for various reasons.²

1 Please note that this paper is an extended version of our work (Schuster 2016) presented at the 4th International Workshop on Philosophy and Logic of Social Reality (SOCREAL 2016), 20-30 October 2016, at Hokkaido University, Sapporo, Japan.

2 Although we casually speak about computers and humans here, we would like to mention that these terms stand representatively for various types of entities and environments including, but not necessarily limited to computer networks, virtual reality worlds, or robots, as well

From observation, the various forms of the aforementioned interplay frequently seem to be mirror images of each other. As such the emphasis of this paper is an exploration of this relationship. For instance, in the domain of computer network topologies, a mirror image for a 'centralized' or 'decentralized' computer network might be a federal or confederal mode of government adopted by a particular state. There are, however, many more properties (physical and non-physical), patterns of behavior (visible and invisible), and forms of organization that are common between human society and technological structures. As an initial example, consider the complex systems of software programming languages and protocols that allow the form of organized and global communication we experience through the Internet today. If we compare these languages and protocols with those utilized in human communication, then we must acknowledge that there obviously are many similarities between technological structures and forms of organizing human society.

In order to understand these and other similarities more comprehensively, we first look at formative

as the many facets of human nature and society. In addition, we would like to reemphasize the focus of our work, which is that of the wider computer technology domain.

interactions between human society and technological structures from a systems theory perspective (Section 2). Section 3 and Section 4 demonstrate a variety of ways in which human society and technological structures influence, shape, and inspire each other, and also that these interactions may lead to novel patterns of societal organization (referred to as ‘swarm’, ‘entropic’, and ‘computational artistic society’ in this paper). Section 5 proposes a potential explanation for the emergence of these patterns and, perhaps, the process of interaction between human society and technological structures more generally. Section 6 ends the paper with a summary.

2. Formative interplay as a feedback system

The motivation in this section is twofold. One goal is to interpret the process of formative interaction between human society and technological structures from systems theory. The second goal is to point out that the roots of this formative interaction reach back deep into our history, and we demonstrate this next through an example from ancient Greek mythology.

2.1 L’amour triomphe

The elegiac poem *Metamorphoses* written by the Roman poet Ovid (Publius Ovidius Naso, BC 43-AD 14) includes the famous myth of the Greek sculptor Pygmalion who fell in love with his own creation (Ovid 2008, 232-4). In the myth, the obscene Propoetides had dared to deny the divinity of the goddess Venus. In an act of revenge, Venus turned the Propoetides into vulgar women of the street (the first prostitutes). After seeing these women in their wicked ways, Pygmalion lived celibate, lacking the companionship and love married life can provide. Deep in his heart, however, Pygmalion desires for a bride. In his yearning, he begins to carve a woman out of ivory. As the statue grows in shape, Pygmalion becomes overwhelmed by the beauty and realism of his work and falls in love with his creation. Secretly, Pygmalion wishes he could have a wife like this. The goddess Venus, to whom Pygmalion prays in his despair, eventually grants this wish. When Pygmalion returns home one day and kisses the statue, Pygmalion realizes that it had turned human. The story ends with Pygmalion and the woman getting married and having a daughter.

In the context of this work, the ancient myth of Pygmalion describes the interaction between a member of human society and a structure of technology, namely the statue Pygmalion carved out of ivory. In a creative process of transformation, the statue becomes more and more - *human*. The main protagonist in this story, Pygmalion, also changes. Actually, he changes in two

distinctive ways, internally, and externally. For instance, Pygmalion moves through the internal (invisible) states of being sad and disappointed to that of being in love.³ On the other hand, he also experiences several clearly external (visible) transformations including that of becoming a married man and a father, for instance. Please note the significant weight these latter transformations carry in human society.

2.2 The triumph of new media

Our second example comes from the field of new media and the so-called new media environment. Although the history of these fields is relatively young, both terms stand for important developments in the fast-moving, modern-day world of the Internet.⁴

Perhaps, we all understand that, media are integral to our everyday-life. In its essence, the role of media is that of a mediator through which we interact and establish an understanding of the world, of our experiences, and beyond. In the last few decades, the development of the personal computer had an impact on the professional and social lives of individuals and organizations around the globe. The design of a global communication network in the form of the Internet and the invention of an interactive information space in the form of the World Wide Web (WWW) accelerated and guided this development into the omnipresent, creative information environment we all share today.

In the realm of academia, the relatively young, interdisciplinary field of new media studies is a child of this development. New media can be understood as on-demand content that is available anywhere and anytime on a range of devices (PCs, tablet computers, smartphones, etc.) through the Internet. The new dimension of the Internet, which allows interactive user feedback and creative user participation, therefore, makes new media fundamentally different from old media such as television, radio, or print media.

What is important for us to know is that a basic design pattern underlying the new media environment is that of a (closed-loop) ‘feedback’ system (see Figure-1). Although, in reality, the new media environment includes many more components (hardware, software, etc.), it is possible to imagine the new media environment in Figure-1 as a multi-dimensional, technology-based, interactive communication platform for society.

3 Here, it is interesting to understand that the creation, integration, and controlled utilization of such feelings and emotions in machines (e.g., robots, intelligent personal assistants, or virtual reality agents) is one of the goals of current AI.

4 For a good introduction to the field see Press and Williams (2010), or the classic work on media by McLuhan (2001).

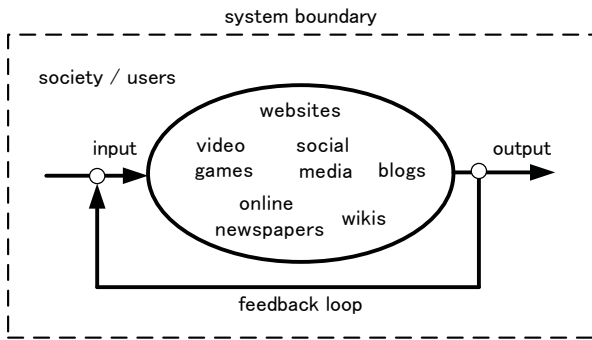


Fig.1. The new media environment as an example of a modern technological structure. The underlying feedback design pattern provides opportunities for a society to reorganize (and perhaps reontologize) in various ways.

On a higher level of abstraction, the way in which the system in Figure-1 works is relatively simple. Fundamentally, the system receives input from its users, does some processing, and produces some 'desired', tangible output. Usually, this output is directly accessible to its users through various devices. The crucial feature of the system is the potential it provides for user feedback, hence, creative user involvement and participation. This involvement may range from passive opinion forming to more active forms of participation. Ultimately, the complete experience encourages users to consume current output and to provide new input into the system (instantly, continuously, and voluntarily). Over time, this process can lead to the development of (local and global) dynamic patterns of structural and behavioral formation, reorganization, and, perhaps, reontologization in the system environment. Of course, this is the underlying idea and drive behind the so-called 'social web' (also called Web 2.0) with its various outlets such as YouTube, Facebook, Instagram, Twitter, etc.

As an example, imagine an on-line newspaper article (desired output) appearing on a website according to specific web-design criteria. So far, the process is passive (input generates output, no feedback). In terms of active feedback, we need to consider that many on-line newspapers provide a space (e.g., an Internet forum or a message board) where people can engage in a conversation by posting messages on-line. Such an on-line discussion site, therefore, is an environment where not only old or incorrect information can be updated or corrected (instantly, because on-line), but also where new information and opinions may emerge in relatively short intervals of time. It is exactly this rapid and instant dynamism that makes the new media environment so powerful.

Before we investigate the formative interplay between society and technological structures more deeply, let us spend one last thought in this section on the observation that the (net-)effects of a user interaction in the new

media environment are often difficult to quantify. A study by Lin et al. (2016), for instance, reports on a possible type of behavioral pattern between social media use and depression among US young adults. Depression, including its quantification, is a troublesome and difficult condition, of course. Although similar problems arise when it comes to issues such as fake news, sexuality, violence, privacy, or security, for the sake of space, these issues cannot be addressed in this text.

3. Formative interplay between society and technological structures

We already mentioned before that the interplay between society and technological structures is bidirectional. The organization of this section appreciates this interplay by first looking into the 'from society to technological structures' direction and then into the 'from technological structures to society' direction.

3.1 Society shaping technological structures

Perhaps, the Internet is a relatively attractive computerized environment to begin with. Although the 'client-server' model (one of the most common network architectures on the Internet) and the 'peer-to-peer' model are not necessarily restricted to the Internet domain, they represent two ways in which the resources in a distributed application on a large computer network may be organized (Gray 2011, 67-88).

In the client-server model (e.g., for a business website), one or more computers act as servers to the rest of the network (the clients). In contrast, in a peer-to-peer network (e.g., for a file sharing application) there is no central service provider (server). All participating computers (clients) have equal status. From the viewpoint of our work, we find that these two types of architecture map into the domain of human society with ease. For instance, a peer review process may involve the evaluation of some body of work between people of similar standing and competence (the peers), while a travel agent (the server) may provide its services to a large customer base (the clients).

In the client-server and the peer-to-peer examples just mentioned, the clients, servers, travel agents, and peers, are tangible objects. It is necessary to understand that parallel to this physical dimension there also exists a less tangible dimension when objects communicate (e.g., two smartphones over a wireless connection). In this domain, it is possible to distinguish communication protocols such as 'broadcast' or 'token ring' technology. It is easy to understand these protocols in the human domain. Imagine a teacher handing out assignments to his students. (Please note that for the sake of simplicity, we use 'his' as a gender-free pronoun throughout this text.)

In a broadcast, the teacher would simply call the name of student 'X'. In the case that student is present, they might raise a hand and receive the assignment from the teacher. Note that in a broadcast the call goes out to all students at the same time. In a token ring scenario, the teacher goes from one student to the next student asking 'Are you student X?'. In the affirmative case, the student receives the assignment. In the negative case, the teacher moves on and repeats the question to the next student. Note that in the token ring case the call goes out individually and sequentially. In reality, the number of communication protocols in computer networks is large, and so is the range of tasks they cover, which includes: preventing data packets from colliding on a network, routing of data, avoiding network traffic congestion, preventing errors in incoming and outgoing data, or some form of security.

Although there are many more examples worth mentioning in this section, we feel that the evidence for our case is already rather substantial, namely - that there is no doubt that technological structures can be mirror images of various aspects of human society.

3.2 Technological structures shaping society

From the reversed point of view, the 'from technological structures to society' direction, we can observe that the very creations of human enterprise (e.g., the computer networks) feed back a stimulus that encourages the emergence of new behaviors and organizational patterns in human society, too.

For instance, the production of a reliable and robust network (out of unreliable parts) was a major design goal of the early Internet. In order to achieve these goals, the designers of the Internet invented the now well-known, but at the time groundbreaking, design principles of decentralization, end-node verification, dynamic routing, or packet switching (Casad 2011; Tanenbaum and Wetherall 2013). In return, the Internet and the impact it has on everyday-life encourages scientists as well as activists in various areas to contemplate new types of society that may emerge in the so-called 'global village'. A decentralized society, may be one such type of society. Such a society may embrace concepts such as decentralized communication, decentralized law, decentralized energy production, and decentralized finance, all facilitated by the Internet.⁵ Clearly, the

⁵ Johann Gevers. The four pillars of a decentralized society.

intensity with which these ideas can be pursued today would have been impossible in the same way (if at all) in the pre-Internet (pre-computing) era.

Of course, whether we are going to witness the migration of our society into such a decentralized form, or whether it may be a process of meandering into an all-embracing 'infosphere', a reality envisaged by the philosopher Floridi (one of the key figures in the field of the 'philosophy of information'), is debatable (Floridi 2010; 2011). Equally debatable might be some of the ideas and concepts we are going to introduce in the forthcoming Section 4. Due to the nature of our work, the material we are going to present in that section requires us to comment on ideas and phenomena (e.g., network theory, social networks, crowdsourcing, or computer art) that are more or less well-known in the wider context of our work (Barabasi 2003; Caldarelli 2012; Kadushin 2012; Greenberg 2011). Beyond these established materials, however, we also would like to introduce and describe types of organizational patterns that seem to have a degree of novelty according to our understanding of the field. In this paper, we refer to these novel patterns of organization as 'swarm society', 'entropic society', and 'computational artistic society'.

4. Swarm, entropic, and computational artistic societies

In order to appreciate this section for what it may be worth, we first would like to set the ballpark in which we intend to identify and investigate the aforementioned forms (swarm, entropic, and computational artistic) of organization of society.

- First, we would like to emphasize that we do not claim that these forms of organization are 'everywhere', 'obvious', or 'clearly visible' in our society. Actually, in many cases, these forms of organization are often spontaneous and short-lived. Our argument, therefore, would be that these forms of organization exist in some places and situations in our society, and that these forms of organization are worth being interpreted and

https://www.youtube.com/watch?v=8oeiOeDq_Nc. Accessed: 2017-03-14.

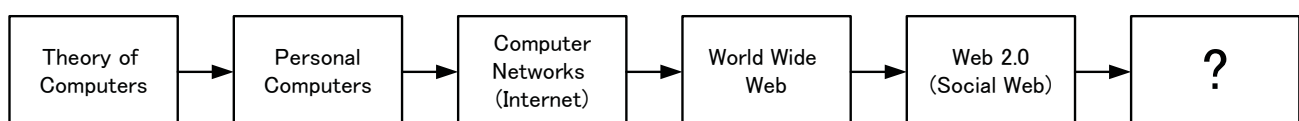


Fig. 2. Evolution of computer and network technology.

investigated.

- Second, we would like to stress that the environment in which we discuss these forms of organization, largely, though not exclusively, is the Internet, WWW, and new media environment.

After these relatively important clarifications, we continue this section by first compressing the development of computer and network technology into three distinguishable phases (see Figure-2).

Although there are various other names worth mentioning, the first phase may include Alan Mathison Turing (1912-1954), John von Neumann (1903-1957), or Claude Elwood Shannon (1916-2001). In simple terms, Turing outlined the limits of what computers can do by formulating the ultimate digital machine, the so-called 'Universal Turing Machine'. Von Neumann's contributions include the description of a computer architecture, the so-called 'von Neumann architecture', that remains a fundamental design feature of any modern-day computer. On the other hand, Shannon is often referred to as the father of the mathematical theory of information. Crudely, this theory describes the effective encoding and transfer of data through a communication channel (e.g., a computer network).

The second distinct phase includes inventors such as William Henry (Bill) Gates III (born 1955), Steven Paul (Steve) Jobs (1955-2011), Vinton Gray Cerf (born 1943), or a Sir Timothy (Tim) John Berners-Lee (born 1955). These names stand representatively for many people involved in the realization of powerful computer systems, their underlying hardware and software, as well as for the powerful inventions of the Internet and the WWW.

Lastly, the third phase of progress revolves around the founders of companies such as *Google* (founded 1998), *Facebook* (founded 2004), *YouTube* (founded 2005), or *Twitter* (founded 2006). All of these companies pursue their business under the aforementioned social web. The social web is an extremely powerful abstraction. For one thing, the social web urges our (information) society to redefine traditional values such as ownership (Heaven 2013), friendship (Brent 2014), or (digital) ethics (Han 2013). In addition, the term also stands synonymously for the seamless integration, augmentation, and infiltration of computing devices (tablet computers, smartphones, computer games, virtual reality glasses, brain machine interfaces, and others), - plus the plethora of services these devices provide - into our information hungry society as a new way of life.

The relatively young, interdisciplinary academic field of new media studies mentioned earlier, might be seen as a response to these developments. The field explores a wide range of issues on the intersection of computing, science, the humanities, and the visual

and performing arts (Press and Williams 2010). It is important to understand that a crucial feature of this new environment lies in the potential for individual users (who do not need much technical expertise) to contribute and express themselves in a variety of ways on the Internet (e.g., from literary expressions such as blogs and digital graphic novels, to the visual and performing arts such as YouTube videos and on-line role playing games).

In the social web domain, so-called 'content management systems' are among the technologies facilitating this kind of participation. A content management system is like a tool that allows users to decorate an empty room according to their individual tastes - from the distance (i.e., over the Internet). Such a room could be a social web account, such as Facebook. Initially, a user registers for an account that is empty in terms of user-provided, personal content. Over time, however, the content in an account usually evolves, until it represents a form of virtual home or second identity of its owner.⁶ Let us use an analogy to summarize this process. The early Internet was like a skeleton onto which the WWW began to weave a skin and some cloths. Content management systems transformed this poorly dressed entity into a catwalk where users metamorphose into attractive virtual models that in some way behave artificially alive.

From a historical perspective, the social web (new media environment) appears to constitute a form of reality visionaries such as Paul Marie Ghislain Otlet (1868-1944), Vannevar Bush (1890-1974), or the German artist and political activist Joseph Beuys (1921-1986) contemplated several decades ago. Paul Otlet is often considered to be the father of 'information science'. Together with like-minded people, notably the Nobel Prize for Peace laureate Henri La Fontaine (1854-1943), Otlet carried the vision that knowledge is going to have a positive impact on humanity and world peace. The so-called *Mundaneum*, a partially realized, global (universal) repository for all the world's knowledge, used to stand as a powerful testament of this vision.⁷ The influence of the American Vannevar Bush was similarly profound. He is widely acknowledged for his understanding of science and technology, as well as for his foresight in terms of the ways in which the emerging digital technology might affect society (Bush 1945). On the other hand, Joseph Beuys developed a view of a society in which 'jeder Mensch ein Künstler sei' (where everyone is an artist) through the mystical term 'social sculpture' (Stachelhaus

6 Here, it is interesting to mention that the word 'avatar', which is commonly used to describe entities in some virtual reality environment, is a concept borrowed from Hindu religion, where it refers to some form of 'incarnation'.

7 The Mundaneum. <http://www.mundaneum.org/en>. Accessed: 2017-03-14.

1995, 78-98). Interpretations of this term understand social sculpture foremost as a process of transformation or shaping of society through the collective creativity of its members into an entity of cultural, moral, and ethical significance.

Maybe, we should emphasize here that, in the past, driving this process should have been, or was indeed, the role of the 'traditional' artist. The difference today is that this artist could be you, me, or indeed everyone else (who has access to the Internet).⁸ Nevertheless, with this brief introduction to the development of the wider computer environment, we are ready to organize the various examples mentioned so far, plus some new ones, into various (rather frequently overlapping) strands of society.

4.1 Swarm society

We investigate swarm societies from the points of centralization and decentralization. In computing, the field of 'swarm intelligence' (Hassanién and Emary 2015) studies the collective behavior of decentralized, self-organized systems (natural or artificial). Usually, individual agents in such systems do have limited ability. Nevertheless, the combined outcome these agents achieve often demonstrates behaviors that seem to surpass the ability of each individual agent. Take the case of the captivating flight behavior among migrating birds. In a close-up, the trajectory of a single bird looks erratic and unorganized. Yet, from a wide-angle shot perspective, the flock of birds remains together and stable in a largely 'self-organized' configuration.

Human societies exhibit various forms of (de) centralization, too. Casually speaking, a human society may have a center in terms of location (e.g., from caves to our solar system), or leadership (e.g., from tribal chiefs to emperors). Likewise, a society may feel decentralized as in being lost in the vastness of space (location), or enjoy a status of equality as in 'animal farms' (leadership).

It is not too difficult to identify swarm-like, decentralized, self-organizing behavior in our more recent time, too. To begin with, we could take the case of the recent refugee crises that is happening in various places across the world. The way in which many of these refugees (migrants) travel (migrate) carries the fingerprints of decentralization and self-organization. It is instructive to notice the role various new media tools and applications play in this crisis, too. Perhaps, one of the most valuable possessions a refugee may have could be a smartphone. The smartphone is all in one, compass, navigation tool, job finder, entertainer, communication tool, and organizer of all possible things. Ultimately, it is

the lifeline that provides those who have very little with a virtual 'home'. In order to support the case of swarm-like societal behavior further, we provide a few more examples around the topics of: 'firestorm', child abuse in the so-called 'darknet', and decentralized communication in so-called 'mesh networks'.

A firestorm (Pfeffer et al. 2014) could be described as a sudden, massive reaction or outburst of negative criticism or protest on social media (Twitter, Facebook, etc.) concerning a wide range of issues including gender, race, sexuality, politics, popular culture, and others. Although there seems to be a daily pool of cases from which we could take examples, a recent case concerns the actress Jodie Whittaker who was chosen to be the first female incarnation of the main protagonist, 'The Doctor' in the hugely popular British TV series 'Doctor Who'.⁹ Without going into the details of the actual social media messages posted, which involve gender bias, abuse, support, etc., it is interesting to analyze the dynamic of a firestorm. The agents involved have weak ties (almost anonymity between each other) and limited forms of interaction (posts on social media), while the global pattern (which has a kind of temporal dynamic and stability) of the interaction appears decentralized, self-organized, erratic, and short-lived, which are all swarm-like characteristics.

Our next example concerning swarm-like features of organization of (elements of) society, considers the disturbing case of child abuse and child molestation in the so-called darknet [(a computer network that can be accessed only with specific software, and that through this software provides a considerable degree of anonymity for its users (Biddle et al. 2002)]. The article¹⁰ we are referring to, explicitly comments on issues how such a platform functions (i.e., the strategies and behaviours, providers and users of such a platform apply in order to remain anonymous, informed, and coordinated). Largely, these strategies revolve around mobility, flexibility, rapid communication, decentralization, and self-organization, which are all swarm-like features.

In order to somewhat counterbalance the upsetting example in the previous section, let us briefly demonstrate a case where elements of society can benefit from technology that operates on emergent, swarm-like behaviors. Beekman and Beekman (2013, 309-310) mention that mesh networks are an alternative to networks that rely on centralized routers. In a decentralized mesh network, a message hops from

⁸ It may be even a machine such as the 'painting fool', which is a computational creativity project in the AI domain. <http://www.thepaintingfool.com/>. Accessed: 2017-03-14.

⁹ Der Spiegel. Erster weiblicher 'Doctor Who'. Viel Lärm um was? <http://www.spiegel.de/>. Accessed: 2017-07-28.

¹⁰ Der Spiegel. Darknet-Forum 'Elysium'. Wie die Kindesmissbrauch-Plattform funktionierte. <http://www.spiegel.de/>. Accessed: 2017-07-28.

wireless device to wireless device until it finds a destination. The route the message takes, therefore, is ad hoc, which means that the network topology at any time is self-organized and could be in any form at any stage. What is the advantage? Mesh networks can be employed in areas where there is a lack of broadband Internet. Actually, this would be the case of a self-organized (because anybody can do this wherever he/she wants to) implementation of a self-organized network. Mesh networks are also useful in situations where individuals want to set up a temporary (private) communication network in order to achieve a certain goal. Such a group could be an emergency team (e.g., fireman fighting a hazardous fire or some other kind of disaster situation). On the other hand, a mesh network also could be employed by a group of protesters or activists during an uprising or some other form of campaign. (One advantage here could be that the mesh network can be controlled by the protestors/activists, which can be the cause of governmental concern and interference.) There are many more applications of mesh network technology. What is important here, however, is that mesh networks are an example where a technology that operates on the principles of decentralization and self-organization supports situations in which groups of society organize themselves and operate in a swarm-like fashion. For instance, although firefighters and political activists are organized in some kind of structure, in action, the (unforeseen) events unfolding in a particular situation may dictate a course of action that may require rapid decision-making and spontaneous (unplanned) responses, which are a form of self-organization.

Our last example in this section, reflects the case that human societies may be prone to a form of intellectual (de)centralization, too. An example from the domain of literature may support this view. The so-called 'literary canon' is an important idea in literature and culture. Simplistically, a literary canon may describe a body of books (e.g., the works of William Shakespeare) that have been traditionally accepted by scholars as the most important and influential in their society or culture. More recently, those researchers who investigated large-scale trends in literary style found that the influence of classic literature (the literary canon) on contemporary writers is declining (Hughes et al. 2012). Their research on a large body of literary works (current and past) revealed several trends including that: (i) authors of any given period are similar in style to their contemporaries, (ii) the stylistic influence of the past is decreasing, and (iii) authors writing in the late 20th century are instead strongly influenced by other contemporary writers. From our point of view, therefore, the literary canon represents a centralized form of literature, while the current literary scene appears more decentralized, self-organized, and swarm-like. The literary canon is one example.

Other examples, may come from the world of on-line publishing, open-access, blogs, wikis, and various other highly dynamic and versatile environments holding an ingrained capacity to shape and impact the intellectual sphere of human societies.

4.2 Entropic society

Entropy is a fundamental concept in physics. We distinguish two types of entropy: 'natural' entropy and 'artificial' entropy.¹¹ An instance of natural entropy could be an ice cube melting away in a glass of water. The ice cube changes from a state of low entropy (generally associated with a form of higher organization, here ice) to a state of increased entropy (generally associated with a state of lower organization, here water). The process happens without any enforcement, spontaneously and naturally, according to the laws of physics. Artificial entropy is similar to natural entropy in considering situations where systems change from states of high organization (low entropy) to those of low organization (high entropy), and vice versa. Crucially, however, it is human thought and rational thinking that initiates these state changes.¹²

Events such as the French Revolution, for instance, represent cases of artificial entropy. The French Revolution transformed a monarchy (high organization, low entropy) in a process of social and political upheaval into an intermittent state of chaos (low organization, high entropy), before converging into a modern democracy (high organization, low entropy again). For us, the interesting step is the intermittent state of chaos with its rapid increase of artificial entropy. More generally, we suggest the concept of artificial entropy as a tool for analyzing situations where systems, triggered by human thought and intent, experience rapid and massive organizational change. The Internet and the social network domain represent such a system in our eyes.

Let us elaborate more concretely on two examples from the domain of art (past and current), in order to better understand our argument about entropic society. From a past perspective we look at the art movement of 'Dada'. In his book on Dada, Kuenzli (2006, 14) writes that

'... Dada, more than any other movement, has shaken society's notion of art and cultural

11 Please note that this distinction is not entirely new. The philosopher Floridi (2010; 2011) speaks about anti-entropic information entities and processes in his work. Our motivation here is to pursue and understand (and, perhaps, expand) this distinction in some way.

12 Understandably, such a distinction should lead to a wider discussion. For the sake of brevity, however, this text omits a detailed exploration of this topic.

production. Fiercely anti-authoritarian and anti-hierarchical, Dada questioned the myth of originality, of the artist as genius, suggesting instead that everybody should be an artist and that almost anything could be art.'

How could a transformation into such a radical form of art emerge, and what does it have to do with entropic society, or with society in the first place? Scholars in the field, including Kuenzli (2006), always point out the cultural crisis period of the First World War (WW1), and that Dadaists (as well as other intelligentsia) believed that the systems used for constructing an interpretation of the world were inadequate (as demonstrated by the horrors of WW1). Dada, therefore, is a form of deconstruction (please note that we consciously avoid going into the work of Derrida here) of a cultural sign system through a new sign production, namely that of Dada. According to the people involved, this new system should be able to change society's interpretation of the world not only in the domains of art and literature, but as a whole Kuenzli (2006, 17). Although the rebellious impact of Dada was profound, some individuals perceived it as a means rather than an end in itself. These individuals looked at Dada as a first step into a new beginning, where, after the negative work of deconstruction (the result of which individuals perceived as a kind of void), a new interpretation of the world could be generated in a creative, positive process (e.g., through the various successors of Dada such as Surrealism or Constructivism). Let us stop here, and look at what this may have to do with entropic society. Our argument would be that society goes through stages of high organization (low entropy), such as a pre-WW1 society, through a phase of low organization (high entropy), such as the state created by the (negative) deconstruction of Dada, to enter again a state of high organization (low entropy), for instance by inventing or creating new systems of interpreting the world.

Let us now move to our second example, which involves the work of the audiovisual multimedia artist Davide Quayola (born 1982, artist name Quayola). The starting point in Quayola's work are popular paintings (high organization, low entropy) of the 'Old Masters' (e.g., Botticelli, or Rubens).¹³ Initially, Quayola produces high-resolution digital images of these paintings. A computer program then repeatedly fragments these digital images in an iterative process into a series of intermittent images (low organization, high entropy) until, in a process of inspection, a new object of art (high organization, low entropy again) that is aesthetically pleasing to the artist's eye emerges, and thereby, may

require a new way of interpretation.

In order to summarize our thoughts on entropic society in this section, we would like to hypothesize that the processes of iterative destruction and reorganization are an essential part of human existence. Old ideas and concepts not only gradually change, they are also often (consciously, as well as unconsciously) smashed and utterly destroyed. Far from being useless debris, eventually, these high entropy remnants are the material out of which new, low entropy structures and forms of organization will emerge. We feel that the Internet and its environment are a platform where such processes can thrive and grow deep into the fabric of human society and beyond. This is why we feel that calling such forms of organization entropic societies may carry some value in it.

4.3 Computational artistic society

We mentioned earlier that the boundaries between the various types of society we propose in this paper are rather flexible and often overlapping. The work of the artist Quayola mentioned before typifies this flexibility rather well. As we shall see shortly, his work (and vice versa for the works of other artists mentioned in this section) deserves a place in what we call 'computational artistic society', too. Let us give an idea about this concept by modifying the quote 'everyone is an artist', attributed to Joseph Beuys earlier in this text, in the following way:

'In the new media environment everyone can be an (a computational) artist.'

It is obvious from this quote that the new media environment forms the backbone of a computational artistic society. We need to remember now that the field of new media studies deals with a wide range of issues on the interface between computing, science, the humanities, and the visual and performing arts. The remainder of this section uses examples from these domains in order to demonstrate the potential that computational art provides for preserving, changing, and extending various dimensions of 'traditional' art in a creative and formative dialog with society.

Out of many possible examples, let us begin with so-called 'fractal art', also called algorithmic art. This relatively young art form concerns the computer-(software)-based creation of images and structures that are self-similar under different scales of magnification. Fractals and fractal art emerged in the 1980s in the wider context of 'chaos theory' (Mandelbrot 1982; Greenberg 2011). One of the underlying ideas of this art form (and chaos theory) is that complex (natural, and artificial) structures (e.g., that of a tree, a snowflake, an organ, a landscape, or a Quayola image) can be

13 Meet Audiovisual Auteur Quayola. <https://www.youtube.com/watch?v=fTw8b9PwMr4>. Accessed: 2017-03-14.

generated from relatively few and simple building blocks (e.g., geometric shapes such as lines and triangles, or mathematical equations such as those describing the famous ‘Mandelbrot set’) in an iterative, software-driven process. We already indicated that the work of Quayola follows a process that is very similar to this approach.

Another possible work in this category could be the paintings based on color charts or the famous stained glass window in Cologne Cathedral produced by the German artist Gerhard Richter (born 1932). Similar to Quayola, Richter, at some point in his career, utilized procedures that involved various elements of randomness (e.g., for the arbitrary arrangement of colors in a work) in the production process of his paintings, and, in a different medium, the aforementioned stained glass window in Cologne Cathedral. The important point to understand here is that in these cases, neither the artist (Quayola, or Richter), nor the computer (software) work in isolation. Rather, the artist and the computer are in a constant dialog (though maybe not on equal terms) about the direction into which their creation should evolve.¹⁴

Another area in which the new media environment impacts dimensions of traditional art (its creation, presentation, consumption, preservation, etc.) is that of literature. Let us consider the case of digital graphic novels by referring to the exciting children fantasy ‘The Wormworld Saga’ created by Daniel Lieske (born 1977).¹⁵ Of course, in these diametrical media environments (digital versus traditional paint) there are the obvious differences in terms of the production tools. Keyboards, sensitive graphics tablets, monitors, or computer graphics programs, for instance, have replaced old fashioned pen, paper, brush, canvas, or palette. However, it is also important to take note of the profound changes concerning the physical and sensuous dimensions of old media. For instance, the weightless, never-aging ebook edition we can download and read on any computer screen has replaced weighty, voluminous, bulky, new or second-hand, smelly, stained, or otherwise sensuous paperback and hardcover editions. Likewise, on-line, the concept of a ‘page’ has been transmuted into

14 In terms of computer creativity we would like to mention that a software program is a completely deterministic procedure. Nonetheless, there is often an element of creativity, which may express itself in the reaction (e.g., surprise) the creation may evoke in an observer. This reaction arises out of the huge number of arrangements the software can explore and produce in a relatively short period of time. Creativity, therefore, is related to the generation of an output in a predefined solution space that is impossible to comprehend for the human involved in the process. Please note that the paper by Boden (2009) provides an interesting introduction to this topic.

15 The Wormworld Saga. <https://wormworldsaga.com/>. Accessed: 2017-03-14.

one long and seamless, almost infinite two-dimensional surface where readers use a ‘mouse’ or a touch pad to (at the same time) ‘watch’ and ‘scroll-read’¹⁶ through a text.

The case of The Wormworld Saga also provides an opportunity to comment, briefly, on new models of project financing. The Wormworld Saga, among other ways, is partially funded by a ‘Kickstarter’¹⁷ crowdfunding (a form of crowdsourcing) campaign. Alternative finance environments like Kickstarter provide an opportunity for creative artists to propose their projects on the Internet to a global audience, thereby maximizing the possibility to raise funding.

The last example we would like to present in this section relates to performance art. In his 2003 endurance stunt ‘Above the Below’, the popular American magician and illusionist David Blaine¹⁸ (born 1973) spent 44 days in a transparent Plexiglas case, suspended in the air (in an altitude of about 9 meters) on the south bank of the River Thames in London. The stunt attracted considerable public interest and media attention. An important factor of the performance was the Internet, which allowed viewers around the globe to witness this extraordinary spectacle live on-line. We are less concerned here about the physical and mental experiences a body may go through in such a challenge. Rather, we are interested in the environment in which the event took place, which includes its physical location (London, England) as well as its virtual location in the Internet. In the past, lacking adequate media support, the direct experience of such an event would have been tied down to a relatively fixed and confined local space (e.g., a circus, a cabaret, a festival, or a market). Obviously, these restrictions would have impacted spectators in various ways. In terms of participation, the impact is clearly visible in the decision-making, the preparation, and the effort it may take to go, for instance, to a circus (or to London), and the time it takes to quickly check on the Internet how David is doing in his cage today. On the other hand, in terms of the ‘lasting’ impact an event may have on an individual, there is no doubt in our mind that experiencing the mastery of an extraordinary artist directly, as opposed to indirectly through an intermittent agency, are two different things entirely.

The final point we want to make here in relation to the Above the Below endurance challenge, is to hint

16 In cases such as The Wormworldsaga, we would like to add that the simultaneous ‘watch-scroll-read’ through an infinite canvas defines a new type of media experience we may call ‘SmoVel’, because it is a hybrid between watching a movie in slow-motion and reading a novel.

17 Kickstarter. <https://www.kickstarter.com/>. Accessed: 2017-03-14.

18 David Blaine. <http://www.davidblaine.com/>. Accessed: 2017-04-08.

at the dimension of ‘preservation and cultivation of history’ the new media environment also provides. The performance by David Blaine is that of a flesh and bone human being, of course. Despite this realism, we may feel that a number of spectators, perhaps, was ready to consume the experience in the spirit of a somewhat superficial, short-term event, rather than in the way of a somewhat more penetrating experience that stimulates a mind more profoundly. In the past, traditional books used to be associated with guiding consumers to exactly this kind of deeper, more lasting type of experience. It is interesting, therefore, to mention the short story ‘Ein Hungerkünstler’ (English: A Hunger Artist) by Franz Kafka (1883-1924). In all likelihood, this sad and painful work by Kafka (2013) describes several of the experiences David Blaine may have had while hovering in his Plexiglas framed isolation over the River Thames. To what all this boils down to is that although rather different in space and time, Blaine’s *Above the Below* and Kafka’s *Ein Hungerkünstler* have a lot in common. From this point of view of commonness, preservation in the new media environment (as in all other communication environments throughout the course of human history and culture) does not always mean plain copying or recording only - rather it also often means inter-contextual preservation, transformation, and extension. In any case, in all these forms and instances of preservation and presentation, we can clearly recognize some basic elements of humanity and society. Indeed, if we look at this recognition a bit more introspectively, then, we also may recognize a process that is similar to natural, biological reproduction, which is a thread we shall explore more deeply in the remaining sections of this paper.

5. On the origins of formative interactions

The previous sections showcased the multifaceted interrelationship between human society and technological structures. Despite various examples, however, we have not arrived at a meaningful ‘explanation’ of this phenomenon, yet. We would like to use the remaining space in this text in order to attempt such an explanation. Although we have to acknowledge that our forthcoming exposition is speculative, we hope that it evokes some kind of response about the importance of this phenomenon in the mind of the reader. To begin with this undertaking, let us consider the role of an artist (computational, or otherwise) in the new media (or any other) environment.

5.1 The role of the artist

Please note that in this section, we cut the comprehensive discourse about the role of the artist short by looking

at the works of a few scholars only. We also intend to approach the topic through the lens of our previous writing in some way, for instance, by rephrasing the quote mentioned earlier that ‘everyone is an artist’ in the following inquisitive ways:

‘Why should everyone be an artist (computational or otherwise)?’

‘Is it possible that everyone can be an artist (computational or otherwise)?’

‘What happens when everyone is an artist (computational or otherwise)?’

If we envisage the new media environment as an open space into which human culture and life can move, progress, and evolve, then we could look at the work of the German scholar Erich Fromm (1900-1980) for a discourse from a social science perspective about ‘why’ this directed development might happen. In some of his works, Fromm, among other considerations, writes about the ‘liberation’ of man through ‘love’ and ‘work’ [e.g., Fromm (1979; 1993; 2005)]. Our interpretation of these terms would be that Fromm may consider love as a universal gesture in which humanity acknowledges and embraces everything that exists in this world in a positive, caring, forward-looking, i.e., loving way. On the other hand, the stance Fromm takes on work, might be that of a perpetual process of self-assessment, self-refinement, and self-fulfillment (individually, and collectively) that allows everyone to grow and develop into a stable, firmly grounded, and well-functioning member of society. Ultimately, this experience is one of freedom, a kind of comfortableness in oneself, society, and, perhaps, the world at large.

We are inclined to respond to the second question, whether it is possible that everyone can be an artist (computational or otherwise), with a ‘conditional yes’ for various reasons. For one thing, we simply share the positive analysis Fromm provides in his work. Our encouragement also comes from the huge number of possibilities for positive growth, development, and elucidation the new media environment seems to provide for individuals. On the flip-side, we say conditional yes, because the creative participation in the new media environment requires an understanding about the adequate utilization of the tools of new media, which requires various forms and levels of skill in terms of new media (and computer) literacy. Of course, as it does in all ways of life, this requirement only revitalizes and continues the ancient relationship between the teacher and his student.

For the last question, what may happen when everyone is an artist, we turn to the German philosopher

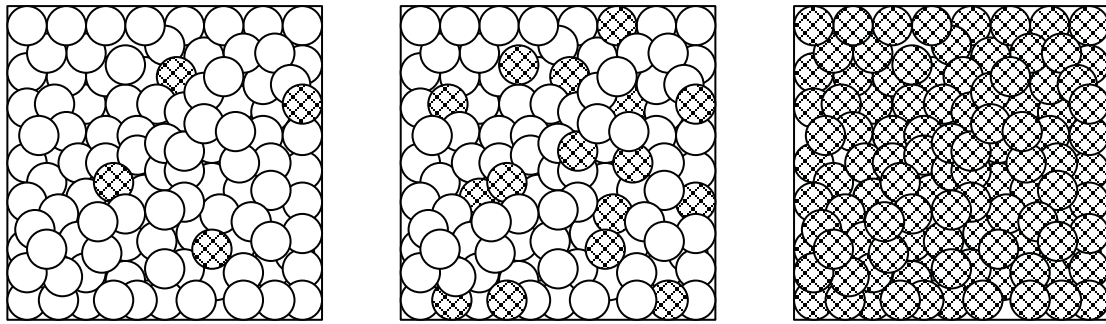


Fig. 3. Identity, indistinguishableness, and entropy. The entropic death of art.

Byung-Chul Han, who writes on a range of topics (e.g., burnout society, transparency, neoliberalism, or digital swarm society) related to the digital new media landscape (Han 2010; 2012; 2013; 2015). The concept that we are going to hijack here from Han's thoughtful discourse is that of 'transparency' (Han 2012). As far as we understand it, Han reflects on transparency as an effect in the form of a kind of information overflow, omnipresence, and exhibitionism caused by a systemic pressure (innate, and/or artificially created) in the new digital landscape. Of course, it is easy to associate this effect with the many details, which are often very private, individuals post about themselves in the various mainstream social media outlets. Han considers this form of neurotic exhibitionism as a kind of nakedness that is close to pornography. Figure-3, which relates to this view in some way, considers transparency from the point of our work.

The point Figure-3 tries to make is that when everyone is an artist, then art simply no longer exists. For instance, one of the roles of an artist (patterned circles in Figure-3) is similar to that of an explorer charting the wilderness of limitations and extremes on the fringes of the human condition. The exploring artist distinguishes himself from others (circles without a pattern in Figure-3) exactly because those others are 'not' artists. That is, we need a contrast against which the artist can stand out and distinguish himself. When this contrast disappears (picture to the right in Figure-3), everyone is the same. (Of course, the contrast also disappears when nobody is an artist.) Perhaps, one way in which we can recognize this phenomena today is in the flood of creations that appear daily on the Internet in the form of videos, images, podcasts, or literary works (including graphic novels). Of course, we do not say that this is a bad thing in itself, or that the quality of these works is low. What we are saying is that it is increasingly difficult to distinguish between what a work of art actually is - not because art has disappeared or that it got extinct, on the contrary - it is because it is everywhere.

In order to conclude our excursion into bohemian society, we go back to Section 4.2 where we elaborated

on the idea of entropy as a state of sameness, or shall we say indistinguishableness. The same section also mentioned that a system in such a state may be the canvas on which new forms or structures of organization may emerge (e.g., remember Quayola and his work, as well as the ideas of chaos theory). A pressing question, therefore, is what sort of society may succeed an artistic society? We shall return to this question later. For the moment, we want to pick up on an issue we mentioned at the end of Section 4.3, where we seemed to recognize a similarity between the process of formative interaction between society and technological structures (e.g., the larger new media environment) and natural, biological reproduction.

5.2 Formative interplay from an evolutionary point of view

Let us introduce our view on the process of formative interaction between society and technological structures, and its relationship to natural, biological reproduction through the following proposition:

Proposition-1: *In its essence, the process of formative bidirectional interaction between human society and technological structures is an expression of an evolutionary principle. The process is similar to natural, biological reproduction. However, it is also different to this form of reproduction, because of the involvement of the dimensions of human intelligence and rational thinking.*

As a starting point, let us look at the concept of a 'meme', which the evolutionary biologist Richard Dawkins (born 1941) introduced in his book 'The Selfish Gene' (Dawkins 1976). In his book and elsewhere,¹⁹ Dawkins considers memes as agents that are similar to

¹⁹ Richard Dawkins on memes. <https://www.theguardian.com/media/video/2013/jun/20/richard-dawkins-memes-cannes-video>. Accessed: 2017-04-08.

self-replicating genes. In contrast to genes, which are responsible for the inheritance of phenotypical traits, however, memes are responsible for the transmission of cultural ideas. So far, so good. Unfortunately, an idea is an idea, it is something that lacks a 'real' representation in this world such as, for instance, a tree has. Ultimately (acknowledging controversy), an idea is a construct of the mind.

By speaking about the concrete material realization (instantiation) of ideas, Proposition-1 goes a significant step beyond mere ideas (genes and memes). From the perspective of this work, what we seem to see in these realizations of ideas is, of course, not bound to be inter-species inheritance (in the sense that elephants breed elephants). The realization of an idea, as we perceived it throughout this text, may find its manifestation in a wide range of objects and environments. At first glance, because these expressions are 'trans' rather than 'inter', these structures bear little resemblance to humans. Closer inspection, however, shows - and this is an important point of our work - that many of these structures are permeated by, let's say phenotypical expressions, hinting at a human creator.

We have almost reached the end of our journey. The final issue we would like to address here is the growing degree of similarity we can find in human created technological structures. The issue is particularly pressing when we think about the AI domain. This domain is special in the sense that it is not a simple human trait that we try to transfer into a structure of technology. Actually, it is quite the opposite, because the feature we talk about here is one of the defining traits of being human - intelligence. Essentially, by attempting to build AI, we transfer the ultimate valuable thing into a structure of technology.²⁰

Let us contemplate such a structure in the shape of a future version of a 'Robo Thespian'²¹ that is powered by a 'Cray'²² supercomputer. We can only speculate - and maybe keep a lock on the drawer where the knives are (Wilde 2015) - about what might be going on in the circuitry of such a 'Thespian Cray' when it looks back at itself, or at some weird carbon-based biological structure, through the idealistic mirror of self-contemplation.

20 Please note that there is a problem in AI that is similar to the inter versus across species issue mentioned earlier. Traditionally, AI applications perform extremely well in single domains (Silver et al. 2016), but struggle in problems that require the ability to reason and generalize across multiple domains (Mnih et al. 2015).

21 Robo Thespian is one of the world's most advanced humanoid robots (Verner et al. 2016). <https://www.youtube.com/watch?v=Rx38lkbLZLk>. Accessed: 2017-04-09.

22 Cray Inc. supercomputers. <http://www.cray.com/>. Accessed: 2017-04-09.

6. Summary

The motivation in this work was to investigate the relationship and formative interplay that may emerge between human society and technological structures. With a focus on computerized environments, notably the Internet and the new media environment, our work explored this relationship via a great variety of examples. In terms of formative interplay, we noticed various forms of emerging organizations of society (swarm, entropic, and computational artistic). In one of the central sections of this paper, we interpret this formative interplay as a process that is similar to natural, biological reproduction. Overall, we feel that our work could lead to stimulating discussions in a range of fields.

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Cohen, G.A. (1989), 'On the Currency of Egalitarian Justice', *Ethics*, 99 (4): 906-44.
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