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College Literature, Volume 48, Number 3, Summer 2021, pp. 593-622 (Article)

Published by Johns Hopkins University Press

DOI: <https://doi.org/10.1353/lit.2021.0022>



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A FUTURIST TURN IN THE HUMANITIES

MIKHAIL EPSTEIN

THE ART OF THE HUMANITIES

The creative aspect of the humanities has not yet found its recognition in the established classification of academic disciplines. The crucial question may be formulated as follows: are the humanities a purely scholarly field, or should there be some active, constructive supplement to them?

There are three major branches of knowledge established in academia: natural sciences, social sciences, and the humanities. Technology serves as the practical extension (“application”) of the natural sciences, and politics as the extension of the social sciences. Both technology and politics are designed to transform what their respective disciplines study: nature and society. Is there, then, any activity in the humanities that would correspond to this transformative status of technology and politics? In the following schema, the third line demonstrates a blank space, indicating the open status of the practical applications of the humanities:

Nature	–	natural sciences	–	<i>technology</i>	–	transformation of nature
Society	–	social sciences	–	<i>politics</i>	–	transformation of society
Culture	–	the humanities	–	?	–	transformation of culture

The question mark suggests that we need a *practical branch of the humanities* that will function like technology and politics but

is specific to the cultural domain. The tendency in the “applied humanities” up to this point has been to technologize or politicize these disciplines, that is, to subject them to the practical modalities of natural or social sciences. “The digital humanities” or “the humanities at the service of ideology” are examples of such subjugation. We need a practical branch of the humanities which resonates with technology and politics, but is specific to the cultural domain.

The simplest term for this transformative branch of the humanities would be the *transhumanities*—the humanities that aim to *transform* the area of their studies. The transformative humanities encompass all humanistic technologies, all practical applications of cultural theories. When offering a certain theory, we need to ask ourselves if it is able to inaugurate a new cultural or linguistic practice, an artistic movement, a disciplinary field, a new institution, or a lifestyle. Generally speaking, the humanities can be perceived as *art* or *scholarship*, and what I suggest is the resurrection of the *art of the humanities*.¹ This includes the art of building new intellectual communities, new paradigms of thinking and modes of communication, rather than simply studying or criticizing the products of culture. We should bear in mind that the humanities constitute the level of *meta-art*, different from the primary arts of literature, painting, or music, all of which comprise the objects of humanistic inquiry. The fact that the humanities belong to this meta-discursive level does not preclude their practical, productive orientation. The humanities do not produce works of art, but rather generate new cultural positions, movements, perspectives, and modes of reflexivity.

Without practical applications, the humanities are what botany would be without cultivation of plants, forestry, and gardening, or cosmology without practical exploration of outer space. Scholarship becomes scholasticism. But what impact does cultural theory have on contemporary culture, or poetics on living poetry? It should be one of the tasks of literary scholarship to project new ways of writing; a task of linguistics to create new signs, lexical units, and grammatical models that would expand the richness and expressive power of language; and a task of philosophy to project new universals and universes, the alternative worlds that may become more palpable and habitable through the advance of technology. This group of practical disciplines—*translinguistics*, *transaesthetics*, *transpoetics*, etc.—aim to *transform* those areas of culture which are studied

by the corresponding scholarly disciplines of linguistics, aesthetics, and poetics.

One of the broadest applications can be assigned to translinguistics, or “language design,” which creates artificial languages or introduces new directions for the development of natural languages. Ludwik Zamenhof’s project, the international language Esperanto (first introduced in 1887), obviously does not belong to the field of linguistics properly, though it derives from profound and creative linguistic scholarship. The comparative analysis of existing languages allowed Zamenhof to synthesize a new language that combines in its grammar and vocabulary Roman, German, and Slavic elements and now has about one to two million speakers worldwide. Another example: at the turn of the twentieth century, Eliezer Ben-Yehuda revived Hebrew (dead for many centuries) as a modern spoken language. Linguistic design covers the area of the so-called constructed international languages (Volapuk, Ido, Occidental), fictional languages (Klingon in the *Star Trek* series, Quenya and Sindarin in Tolkien’s books), and specialized languages of various disciplines (math, logic, linguistics), as well as languages of computer programming and human-machine communication.

CREATIVE THINKING AND ITS STATUS IN ACADEMIA

Is there any institution in contemporary academia in which creative thinkers, *literary inventors and builders* like Friedrich Schlegel, Friedrich Nietzsche, Filippo Marinetti, André Breton, or Walter Benjamin could flourish as professionals? Imagine Friedrich Nietzsche applying for the position of assistant professor at a department of philosophy somewhere in the United States. He brings his book *Thus Spake Zarathustra* as a confirmation of his credentials. A book without a single reference, with no list of sources, devoid of scholarly apparatus, and full of pompous and vague metaphysical declarations voiced by the arrogant author in the guise of an ancient Persian prophet. Most likely, Nietzsche would be denied even the position of an instructor, despite the fact that dozens of distinguished professors of philosophy have made their careers studying Nietzsche’s oeuvre and commenting on his philosophy of the overman.

Literary studies include three more or less traditional disciplines: *theory of literature*, *history of literature*, and *literary criticism*. There is a need for a fourth discipline that addresses not the past (history)

nor the present (criticism) nor the permanent (theory) but the *future of literature*. There should be a place for projective, constructive, future-oriented approach to literature, including the advancement of new textual strategies, techniques, genres. This field is not exactly poetics or aesthetics, which study the existing laws of literature and art, but *transpoetics* and *transaesthetics* (transformative poetics and aesthetics), which open up new possibilities for literature and art and attempt to transform what they study. The prefix “trans-” means “across,” “beyond,” “through,” “transverse,” “on the other side” of what is indicated by the root. As applied to the names of theoretical disciplines, “trans-” means technologies that arise on their basis and lead to the transformation of the areas they study.

The existing classification of literary disciplines is obviously incomplete and does not allow us to determine the nature of the creative contribution of many prominent cultural figures who proclaimed new directions in literature or explored the possibilities of new artistic forms. Look, for example, at Russian Symbolism which became one of the dominating trends in literature, arts, music and philosophy of the so-called Silver Age (1890s–1910s). Symbolism in literature had its own founders and visionaries: Dmitry Merezhkovsky, Viacheslav Ivanov, and Andrei Bely. All of them were both writers and literary theorists, but not purely fiction authors (like Anton Chekhov) and not exactly literary scholars (like Alexander Veselovsky). They did not just produce fiction or poetry and did not just examine the work of other authors but created Symbolism as a method and expanded the boundaries of literature based on a theoretical vision of its tasks and possibilities. They were theorist-creators, visionaries of the future, and thus initiated a program of a broad cultural movement, with artistic, theoretical, philosophical, religious, and social components.

The contemporary academy dismisses humanistic inventorship, despite holding it in such high retrospective esteem. The views, works, and biographies of humanistic inventors of the past are deemed worthy objects of scrupulous academic study. Yet the very constructive impetus of their writing, its “inventive” genre lacking proper documentation and scholarly “apparatus,” would undoubtedly prevent them from entering academia. This paradox can be compared to the improbable scenario in which a university would exclude computer technologies departments on the grounds that, unlike departments of physics or chemistry, they deal with

inventions and not discoveries. Invention in the humanities is no less important.

THE GENRE OF A MANIFESTO

I will give more detailed examples of what I understand as humanistic inventions using the cases of transformative poetics and transformative aesthetics. The main insights of literary theory, as we study its innovative ideas and peak achievements, are found not in scholarly monographs or articles, but in literary manifestos. These are products of theoretical imagination rather than of empirical study and scholarly scrutiny. The manifestos of Neoclassicism, Romanticism, Naturalism, Symbolism, Futurism, Surrealism, etc. are not based on the discipline of research; that is, the “careful, systematic, patient study and investigation in some field of knowledge,” as it is defined by the Webster Dictionary.

Manifestos proclaim new literary movements and cultural epochs, and they initiate these movements by the very act of their announcement. To use John Austin’s famous distinction between constative and performative speech acts, manifestos are performative; they implement what they pronounce. Like the priest saying: “I now pronounce you man and wife,” the author of a manifesto says: “I pronounce this poetry to be Romanticism” or “these novels to be Naturalism.”

John Austin argued against a positivist claim that utterances always “describe” or “constate” something and are thus always true or false. Instead they are “happy” when they achieve what they proclaim or “unhappy” when they fail to perform adequately, like in the case of cancelled orders, broken promises, or curses. Some manifestos fulfill their “felicity condition,” as in the case of Romantic or Futurist manifestos, and some turn out to be unhappy, like the Russian group Nichevoki (Nothingists) who proclaimed their quasi-Dadaist manifesto in 1921 but didn’t have any significant support or achievement.

The majority of the key concepts that laid the ground for literary studies in the past initially came from these imaginative proclamations, which do not make any claims to truth. Our understandings of “irony” and “the grotesque,” image and symbol, the “naïve” and “sentimental,” the nature of a “poetic landscape” or a “realistic character”: all of these we acquire primarily from manifestos. Later

academic scholars have contributed to the clarification and interpretation of these concepts; but, as a rule, the founders of literary movements are not scholars, just as Thomas Edison was not a scientist. They are a separate rank of creators, the creators of ideas and theories, transformative thinkers, humanistic inventors.

Under which existing academic categories can this constructive activity of theory be placed? Does it belong to the realm of scholarship or literary fiction? It quite clearly belongs to neither. Manifestos are neither factual nor fictional—they are *formative*. Linguistically speaking, they exemplify the subjunctive or imperative rather than the indicative mood. They don't describe what is or was but suggest what might or should be. The subjunctive mood is used to express a wish, a suggestion, a command, or a condition that is contrary to fact. Look at the first lines of Filippo Marinetti's "The Futurist Manifesto" (1909):

1. We want to sing the love of danger, the habit of energy and rashness.
2. The essential elements of our poetry will be courage, audacity and revolt.
3. . . . We want to exalt movements of aggression, feverish sleeplessness, the double march, the perilous leap, the slap and the blow of the fist.
4. We declare that the splendor of the world has been enriched by a new beauty: the beauty of speed.
5. We want to hymn the man at the wheel . . .
6. The poet must spend himself lavishly with warmth, glamour and prodigality to increase the enthusiastic fervor of the primordial elements.

"We want," "We declare," "The poet must," "Will be"—this is the modality of a manifesto.

Manifestos aim to produce new literary facts, rather than to register and analyze existing facts, past or present. The proper place of manifestos is precisely in the as yet unmarked domain of *theoretical inventions*, or *the transhumanities*.²

The humanities, I believe, should embrace both modes of cognitive advancement recognized by the sciences: *discovery* of some existing principles and facts and *invention* of those tools and ideas that can transform a given area of study. *Inventorship*, as a mode of creativity, should become as indispensable a companion to scholarship

in the humanities as technology is to science, enacting the constructive and transformative potential of cultural theories.

Our academic institutions, however, currently have no place for such peculiar avenues of conceptual creativity. There are departments for literary theory and scholarship (“comparative literature”) and departments or programs for creative writing, but not for *creative thinking*, constructive writing in “practical theory,” in the *transhumanities*.

HUMANISTIC INVENTORSHIP

Discovery is adaptation of our consciousness to reality. Invention is adaption of reality to our consciousness.

Similarly to the division of knowledge into three branches, inventions are of three kinds: scientific-technological (including medicine), socio-political (including economics and law) and humanistic.

- *Scientific-technological* inventions include railroads, aviation, vaccination, hybridization, antibiotics, astronautics, holography, the atomic bomb, computing, Internet, and the iPhone.
- *Socio-political* invention is a new law, institution, or procedure that radically changes modes of social behavior and establishes new forms of human interaction and organization. Examples include constitutions, parliaments, trade unions, boy scouts, suffragism, communism, Zionism, Feminism, Red Cross, Olympic Games, United Nations, and the Universal Declaration of human rights.

No less than natural or social sciences, the humanities need inventions and inventors. We address to the natural sciences a question of what is the technical potential of a discovery. Equally legitimate would be the question of whether the humanistic idea or theory is able to generate a new cultural movement or an artistic style. Is it possible, on the basis of this idea, to create a new intellectual community, a literary group, or a creative environment? *Humanistic* invention is a new idea that contains the potential of its own realization in the form of cultural practices, intellectual movements, and forms of creative cooperation. Humanistic inventions encompass culture in its entirety and can be divided according to the following domains: language, literature, art and music, philosophy, psychology, and religion. I will provide several examples in each category:

- *Language*: Cyrillic and Armenian alphabets, artificial international languages, orthographic reforms, neologisms and idioms coined by individual authors
- *Literature*: Neoclassicism, Romanticism, the Gothic novel, Naturalism, Symbolism, Futurism, Socialist Realism, Surrealism
- *Art and Music*: photography, cinema, Impressionism, Cubism, Futurism, Suprematism, Art Deco, Bauhaus, atonality, jazz, rock music, Neorealism, Pop Art, performance art, ready-mades, installations
- *Philosophy*: dialectics, Utopia, the “overman” (Übermensch), semiotics, phenomenology, existentialism, postmodernism, deconstruction
- *Psychology*: psychoanalysis, behaviorism, stream of consciousness, Rorschach test, multiple intelligences, the Enneagram of Personality
- *Religion*: Kabbalah (*The Zohar*), Protestantism, Methodism, Deism, Pantheism, Mormonism, Bahai

Some inventions can be attributed to the mixed categories:

- *Techno-Humanistic*: photography, cinema, computer games, hypertext
- *Socio-Humanistic*: dandyism, hippies, punks, emo, goths, and other youth subcultures

The vast majority of inventions have individual creators. This emphasizes the creative nature of even those disciplines, genres, and trends that would seem to have existed eternally and emerged spontaneously of their own accord. For instance, it is established that the founder of linguistics was Panini (Ancient India); philosophy, Thales; epistemology, Xenophanes of Colophon; cynicism, Diogenes; gothic architecture, Abbot Suger; oil painting, Jan van Eyck; Protestantism, Martin Luther; feminism, Mary Wollstonecraft; detective, Edgar Poe; science fiction, Mary Shelley; existentialism, Søren Kierkegaard; anarchism, Mikhail Bakunin; behaviorism, John Watson; logical positivism, Maurice Schlick, etc.

As is clear from this brief inventory, the *transformative* humanities should be distinguished from the so-called *applied* humanities. The latter include arts management, librarianship, media and museum studies, archiving and digitalizing practices, etc. The applied humanities aim to make culture accessible to the public, to enlighten and educate society at large, and to popularize the results of research,

but this task is radically different from the field of humanistic invention that transforms the very subjects of scholarship: languages, arts, literature, human beliefs, worldviews, and psychology.

TYPES OF HUMANISTIC INVENTIONS

Invention in the humanities should be distinguished from creativity as such. Even a great literary work is not always an invention—and vice versa, a work that is far from being a masterpiece can become an invention. For example, *Anna Karenina* (1878) is Leo Tolstoy's magnum opus and perhaps the greatest novel in history, but it is not an invention. Nikolai Karamzin's "Poor Lisa" (1792), though a much more modest, unpretentious, didactic and sensitive story, was the invention of a new literary direction: Russian Sentimentalism. From the viewpoint of literary aesthetics, Charles Dickens's novels were the highest achievement of nineteenth-century English prose, but it was second-order writers who invented the historical novel (Walter Scott) and science fiction (Mary Shelley).

An invention is not the production of a given work, however great, but rather a principle or technique that can be applied to the production of many works by other authors. Therefore, great inventions often happen to be imperfect accomplishments—in technology as well as in literature and philosophy. The first steam engines, telephones, automobiles, planes, and computers were primitive works of technical art that cannot match the sophistication of their descendants. The first photographs and motion pictures were aesthetically weak. An invention often occurs in the form of a sketch, a rough draft, an experiment, a hypothesis and is fully realized and developed, often much later, through the efforts of less inventive others.

Artistic value and inventiveness should be assessed on the basis of very different criteria. Creativity (in visual art, literature, or music) strives for the perfection of a specific text, painting, or symphony. Invention seeks to establish a new principle or idea on the basis of which it is possible to produce a set of various works. Literary composition is a unique creation, complete in itself; literary invention is a universal device potentially shaping a number of products based on the new principle.

There are at least four types of humanistic invention, which I will consider here using literary examples:

1. Spontaneous. The author creates an original work which later finds a number of successors/followers/imitators and becomes the

first example and model of a new style, genre, or trend. Such an innovation may emerge without the conscious intention of the author and then make an impact on literature, becoming a reference point for the generations to come. Thus, Edgar Allan Poe became the inventor of the genre of the detective story (“Murders in the Rue Morgue,” 1841). Nikolai Gogol invented the *skaz*, reproducing the oral speech of a storyteller and integrating it into a narrative without quotations. Neither of them sought to invent any special technique, but introduced it “organically” according to the disposition of their talent.

2. Experimental. The authors pursue the goal of creating a new technique, genre, or type of narrative and subordinate their writing, partially or completely, to this purpose. Such is the “firstborn” of experimental literature—Laurence Sterne’s novel *The Life and Opinions of Tristram Shandy, Gentleman*: its numerous digressions incorporate reflections and consciously construct the form of the narrative. James Joyce’s experiment with plot and style created *Finnegans Wake*, the genre of the myth-novel, and intricate, almost impenetrable language that manifests the collective unconscious, associative fabric of dreams, and infinitely broad play of archetypal images.

3. Programmatic. The author does not simply compose experimental works, but puts forward the whole program of transformation of literature and consciously establishes a new direction—that is, along with the actual art, creates programmatic texts, manifestos, which proclaim a new type of creativity. Thus, Victor Hugo’s preface to *Cromwell* became, along with the drama itself, an act of the invention of French Romanticism and its major artistic technique—grotesque. Many authors of the Russian Silver Age, such as Viacheslav Ivanov, Nikolai Gumilev, and Velimir Khlebnikov, along with properly artistic works produced visionary manifestos of avant-garde, Symbolism, Acmeism, and Futurism, thus defining the philosophical aspirations of these new movements.

4. Systematic. In rare cases, inventorship is not limited to a certain literary direction or technique but is carried out systematically in various areas of creativity. The authors make literary invention their *profession de foi* and set themselves the task of creating diverse techniques, styles, and genres. An instance of such systematic type of invention is *Oulipo*, “workshop of potential literature,” a loose gathering of French writers and mathematicians who sought to create texts using constrained techniques founded in 1960 by Raymond Queneau and François Le Lionnais (other notable members included novelists Georges Perec and Italo Calvino and poets Oskar

Pastior and Jean Lescure). Their intention was “the seeking of new structures and patterns which may be used by writers in any way they enjoy.” In Russian literature, such systematic innovation was undertaken by Andrei Belyi and Velimir Khlebnikov who invented techniques, genres, grammatical forms, words, and philosophical and mystical concepts. Khlebnikov, according to the estimates of linguists, invented about fourteen thousand words, and also entire families of root derivatives, such as nouns with a suffix “-al” (*vzorval'*, *igral'*, *stradal'*, etc.—explozance, playzance, sufferance).

Systematic innovators in the humanities are similar to the versatile American technical genius Thomas Edison who improved anything he touched and made tangible anything that he imagined. He succeeded in being granted more than one thousand patents in the United States and three thousand in other countries, including the telegraph, phone, phonograph, batteries, cinematographic equipment, inventions in cement and mining, and one of the first versions of the electric glow lamp. Nikola Tesla and R. B. Fuller were also tireless inventors who applied their constructive genius to anything that aroused their technical or architectural interest.

One of the most systematic and versatile humanistic inventors in the history of humankind was the English philosopher and sociologist Jeremy Bentham (1748–1832). He created the ethical doctrine of utilitarianism and defined the goal of life as “the greatest happiness of the greatest number of individuals,” creating an algorithm that allows us to calculate the pleasure and pain (“felicific calculus”). Many ideas that form the basis of modern liberalism go back to Bentham. In particular, asserting the equality of women, Bentham advocated the legalization of divorce, insisted on the separation of church and state, and especially defended the rights of animals. He introduced into English such words as “international,” “codification,” “maximize,” and “minimize.” In 1804, Napoleon established his “Code” to change the legal system of Europe based on many ideas of Bentham. His archive includes more than five million manuscript pages, and he has enriched civilization with ideas that can be numbered in dozens, if not hundreds.

Among the most inventive minds of the twentieth century are Jacques Derrida and Gilles Deleuze, who were not simply scholars and philosophers but also founders of new genres of theoretical discourse in which they brought a set of new concepts, terms, methods, and disciplinary fields (“deconstruction,” “grammatology,” “différance,” “rhizome,” “schizoanalysis,” and so forth).

Of course, it is much more difficult to allocate the elements of invention and novelty in the humanities than in sciences and technologies. Patents are not granted for humanistic inventions, though it would be worth establishing such an institution with the purpose of rewarding the author, at least only morally, and, above all, of drawing attention to radical innovations in the fields of intellectual achievements and human self-awareness.

In addition to the four above-mentioned types, inventions can also differ in their scope. For example, in the linguistic area it is possible to invent an entire language (like Esperanto), or the alphabet (Cyrillic), or the colloquial, modernized version of a language (Hebrew), or methods of word formation (as Khlebnikov or Joyce), or single words and neologisms (as many writers and journalists).

Thus, the typology of humanistic inventions can be based on the intersection of at least three coordinates:

1. Discipline: area (philosophy, psychology, language, art, literature, etc.)
2. Type: spontaneous, experimental, programmatic, systematic
3. Scale: whole area of cultural activity, its partial forms or separate elements

As should be clear from this brief exposition, the *transformative* humanities are easily distinguished from the *applied* humanities, which include arts management, librarianship, media and museum studies, archiving and digitalizing practices, and the like. The applied humanities aim to make culture accessible to the public, to enlighten and educate society at large, and to popularize the results of research, but those tasks are radically distinct from the invention of the languages, arts, literatures, concepts, genres, methods and worldviews that become the subjects of the future-oriented humanities.

INVENTION OF DISCIPLINES: TECHNO-HUMANITIES AND HORROLOGY

Francis Bacon believed that the most important kind of invention is precisely that of new arts and sciences:

INVENTION is of two very different kinds: the one of arts and sciences, the other of arguments and discourse. The former I set down as absolutely deficient. And this deficiency appears like that, when, in taking the inventory of an estate, there is set down, in cash,

nothing: for as ready money will purchase all other commodities, so this art, if extant, would procure all other arts. . . . [I]t is no wonder that the discovery and advancement of arts has made no greater progress, when the art of inventing and discovering the sciences remains hitherto unknown. That this part of knowledge is wanting, seems clear. (Bacon 1803)

This branch of knowledge is still nonexistent in today's academia. Bacon himself invented several disciplines that were fully established only centuries later, such as geopolitics or art history, which came into their own only in the twentieth century. Should we wait for centuries to have a new discipline mature "spontaneously"? Or should we create a space for the invention of new disciplines within the academy that will consistently and purposely transgress the boundaries of what is considered "academic"?

An example of a new, emerging discipline is the *techno-humanities* that studies humans as part of the technosphere—which is created by people, but which outgrows and controls them. If anthropology explores the distinctive features of humans among other living creatures, especially higher primates and hominids, then the techno-humanities study their distinctive features in comparison to other intelligent beings, such as cyborgs, robots, and their gendered varieties: androids and gynoids. The techno-humanities present a mirror image of anthropology since both disciplines deal with humanness in a liminal position: the latter focuses on humans evolving from nature while the former focuses on humans evolving into artificial forms of life and intelligence.

An occasionally-used name for this new disciplinary field is "post-human studies," which, in my view, is less appropriate than the *techno-humanities*. "Post-" seems to suggest that humans have receded into the past, and the very word "posthuman" sounds like "posthumous" and has similar underpinnings. It appears dubious, if not inadequate, as a term to denote the process of technological enhancement of humans. The term *techno-humanities* suggests that humans will not be replaced, to use the old defeatist language, but instead supplemented and enriched by technological intelligence. The techno-humanities look at humans at the threshold of this double transformation as they are giving their intelligence to machines while gaining new possibilities through this sacrifice. The techno-humanities explore human specifics in the artificial environment where machines undertake many functions previously performed by humans, such as labor, calculation, information

processing, and management. Studied in this light, humans are only one of the inhabitants of the noosphere as the sphere of reason and thought, along with computer-based intelligent beings (“artilects”), and self-controlling programs capable of creating their own physical bodies. By approaching humans as members of a larger set of intelligent creatures, the *techno-humanities* enrich our discourse on humanness.

In accordance with this historical shift, the discipline of the *techno-humanities* relates to the humanities much as environmental studies relate to the natural sciences. Physics and biology explore *nature as such*, whereas environmental studies treat it as part of an artificial milieu transformed by humans. Similarly, the humanities study *humans as such*, while the *techno-humanities* approach humans as part of a technologically transformed milieu. *The techno-humanities* are both the *ecology of humans* and the *anthropology of machines*—that is, a study of the mutual redistribution of their functions. The techno-humanities study what happens to humans after some of their functions are taken over by thinking machines, as well as what happens to machines in the process of their intellectualization and humanization. Thus, the techno-humanities have a dual subject: the human outside the machine and the human integrated into the machine. Accordingly, this new field can be divided into *eco-humanities*, dealing with the specificity of humans irreducible to machines, and proper *techno-humanities*, dealing with human functions capable of being transferred to machines.

Another new discipline that is necessary for understanding today’s human condition would be *horrology*, or *horrorology* (the proposed name is as cacophonous and gruesome as what it refers to). Horrology is the study of the self-destructive mechanisms of civilization, which make it susceptible to all forms of terrorism, including its biological and technological forms. Horrology explores how any accomplishment of civilization can be used against it as a means for its subversion. So many forms of technology can put humanity at risk that practically any one of them deserves its own horrological study. The atomic bomb is one of them. Albert Einstein was deeply shocked and saddened when his famous equation $E=mc^2$ was finally demonstrated in the most awesome and terrifying way by using the bomb to destroy Hiroshima, Japan in 1945. For a long time, he could only utter “Horrible, horrible.”

Terror is usually defined as violence, or threats of violence, used for intimidation and coercion; often, terror is carried out for political

purposes. In its turn, horror as a painful and intense fear, dread, or dismay is caused by terror. Etymologically, horror is derived from the Latin word *horrere*, meaning “to bristle with fear.” It would be more appropriate to relate terror and horror not as an act and a reaction to that act but as the actual and the potential. Horror is caused by the possibility of terror even more than by actual terror. It is known that illness can cure at least one thing—the fear of getting ill. Horror is incurable because it is not the fear of illness but the illness of fear itself.

If the fear of pollution—civilization’s threat to nature—haunted the second half of the twentieth century, then the twenty-first century may fall prey to another type of horror—the threats of civilization to itself. Ecology, as the primary concern of humanity, is succeeded by horrology that explores civilization as a system of traps and self-exploding devices and humankind as a hostage of its own creations.

For example, after 9/11, it is possible to speak of the horrology of aviation and the horrology of architecture (or skyscrapers). Consider also the threat posed to civilization by self-replicating machines and nano-devices as described in the “hell” scenario by Bill Joy, a cofounder of Sun Microsystems, and rendered by Joel Garreau in his book *Radical Evolution*:

Robots more intelligent than humans could reduce the lives of their creators to that of pathetic zombies. . . . Unlike nuclear weapons, these horrors could make more and more of themselves. Let loose on the planet, the genetically engineered pathogens, the superintelligent robots, the tiny nanotech assemblers and of course the computer viruses could create trillions more of themselves, vastly more unstoppable than mosquitoes bearing the worst plagues. (Garreau 2005, 139)

An archetype of such endless and self-destructive productivity is the magic pot from the famous fairy tale by the Brothers Grimm: the porridge that came pouring out of it began to fill the kitchen, the house, the yard, the street, the town, and potentially the entire world. The more productive a system, the more potentially destructive it becomes in the age of advanced technologies, these “magic pots” of today. As an example, it is possible to speak of the horrology of the Internet, focusing on the spread of viruses in computer networks. Viruses do not spread in telephones or TV networks; it is much more powerful electronic connections that fall easy prey

to such *misorganisms* (to use the same prefix as in the words *mistake* and *misunderstanding*). As was shown with the newest MacBook laptops, a hacker can hijack the firmware to render a battery useless, or worse, turn off the temperature management to make it potentially explode; thus, a laptop potentially becomes a bomb ready to explode in our hands.

This self-destructive potential of the hyperactive Western civilization was clearly foreseen by Johann Wolfgang von Goethe in the early nineteenth century. Though often misrepresented as social utopia, the second part of his *Faust* testifies to quite the opposite. The activity of Faust as a social reformer and “civilization builder” culminates in his constructing a new city at the shore that is forcefully won from the sea. Faust dreams of settling a new world “on acres free among free people,” and with this last effort he savors his “striving’s crown and sum”:

Then, to the Moment I’d dare say:
“Stay a while! You are so lovely!” (lines 11581–82)

However, Mephistopheles, who had instigated Faust to this feat, makes a sarcastic note behind the back of his blind and half-deaf patron:

And yet with all your walls and dams
You’re merely dancing to our tune:
Since you prepare for our Neptune,
The Water-demon, one vast feast.
You’ll be lost in every way—
The elements are ours, today,
And ruin comes on running feet. (lines 11544–50)

Such is Goethe’s vision of the master terror, whose executor turns out to be “the sea devil” Neptune himself, or Mephistopheles’s brother. Terror is not a chaotic destructive action against civilization, but an ironic accomplishment of the latter’s own catastrophic potential.

Horrology as a discipline is the reverse of all other disciplines, a negative science of civilization: hence nega-technology, nega-architecture, nega-sociology, nega-politics, and nega-aesthetics as branches of horrology. Everything studied by other disciplines as positive attributes and structural properties of civilization, horrology studies as a growing possibility of its self-destruction.

Where can we discuss projects for such new disciplines? How can we even attempt to inaugurate them as worthwhile intellectual

practices? Currently, there are no specialists in the techno-humanities or *horrology*. There are no dedicated journals, no departments, and no academic outlets for these prospective areas. I am talking about the birth of new disciplines, for which there is not yet any intellectual environment.

It is noteworthy that Bacon's famous aphorism "Knowledge is power" inspired Albert Einstein to coin a new slogan for twentieth-century intellectual quest: "Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world." Einstein argues with Bacon, yet at the same time enhances Bacon's vision of the "logic of invention."

Knowledge merely reproduces the existing world, whereas imagination creates a world that never existed before. This type of innovation is in short supply in the humanities. Our disciplines must recapture the intellectual initiative and imaginative powers that in the twentieth century were appropriated by sciences and technologies.

TEXTONICS: RETEXTUALIZATION VS. INTERPRETATION

Textonics is the art of organization and transformation of electronic texts. The term *textonics* is formed on the model of "electronics," "tectonics," "bionics," "avionics" and others referring to technologies and transformative practices based on scientific research.

Textonics is part of what is broadly called "digital humanities." Most often, digital humanities involve collecting and using information databases in the humanities as well as teaching and promoting humanistic knowledge through electronic networks. In the same sense, digitalization can cover both natural and social sciences—that is, it is not specific to the humanities. Textonics, on the contrary, is rather "the humanities of the digital": the use of computer technology to create new textual configurations, develop new genres of textual creativity, and reorganize existing texts. Electronic networks bring forth new textual configurations that were invisible or even nonexistent in the age of printed texts. All the basic humanistic activities, such as reading, writing, and interpretation, take on new meaning in the electronic universe and even require a different terminological articulation.

Megatext, supratext, unitext, pertext—all these concepts reflect the upper levels of textuality, which manifest themselves on the Web and must be studied on their own terms.

Megatext is the totality of texts perceived or studied as one discursive whole, characterized by common topics, symbols, archetypes, keywords, leitmotifs, or stylistic devices. For example, we can talk about the megatexts of German Romanticism, or of Chinese Landscape lyrics, or of the superfluous man in Russian literature.

Supratext designates the same textual configuration but, unlike megatext, it is a *relational* term that links any text or its fragment with megatexts on other levels. *Supratext* is a text of a higher, more general plane in relation to the given text. For example, “English Romanticism” or the genre of “lyrical ballads” are supratexts for S. T. Coleridge’s poem “The Rime of the Ancient Mariner” (1797–98). Many motifs in Andrey Belyi’s poetry can be understood only within the supratexts of Russian Symbolism and the Anthroposophic movement. If *context* is the environment of a text on the same systemic level, then *supratext* is a unit of the next, higher level. If Russian Symbolism is a supratext in its relation to the poetry of Belyi, then Russian Modernism or European Symbolism are supratexts in relation to Russian Symbolism. Any literary work, as well as any image, motif, or textual unit has a variety of supratexts and can be understood only in relation to them.

Here is, for instance, a list of some supratexts of Alexander Pushkin’s famous poem “To***” (“I remember a wonderful moment...”):

1. All texts, which include certain lines or expressions of the poem, such as “in a remote corner of the Earth,” “like a fleeting vision,” and “life, tears, and love”;
2. All texts that incorporate the names of Anna Kern (the addressee of the poem) and Alexander Pushkin;
3. All texts that were written in Russian in 1825 because the date of the text’s creation is also a supratextual unit, a common marker of a certain megatext;
4. All texts that were written by Pushkin in the village of Mikhailovskoe because the place of the text’s creation is also a supratextual unit;
5. All texts about love;
6. All texts about memory.

The list of such supratexts can be continued *ad infinitum*.

Thus, the same text can have many supratexts depending on which of its components is regarded as the constitutive feature of a given supratext. Supratext is a totality of all the texts united by a

common element that can be a phrase, a metaphor, the name of the author, the name of the hero, etc.

All texts, united by a common supratext, relate to each other as *syntexts*, or co-texts. Just as synonyms are words sharing the same meaning, so syntexts have a common component with respect to which they are determined as “synonymous.” For example, the poem “To ***” (“I remember a wonderful moment. . .”) by Pushkin, “No, it’s not you I love so fervently” by M. Lermontov and “K. B.” (“I met you, and the past . . .”) by F. Tiutchev are syntexts modifying the motif of “love memory” and “a second encounter.” The notion of *syntext* is particularly important in the textual reality of the network as organized by the search engines. Each search for a certain textual unit is, in fact, the process of collection and comparison of all syntexts that contain it.

The supratext of all existing texts can be called *unitext*—the universal text of humanity. *Unitext* embraces all texts as the universe embraces all components of the material world. In 1827, Goethe introduced the concept of “world literature” (*Weltliteratur*), pointing to the growing unity of national literatures: “the epoch of world literature is now at hand, and everyone must strive to hasten its approach.”

With the development of digital technologies, the unitext becomes a tangible manifestation of the world literature, in which every word is potentially connected to all others. The unitext is both a universal text and a unique text. Just as our universe is unique, there is only one unitext that encompasses everything that has ever been written. This “unitextuality” becomes increasingly achievable through the growing capacity of electronic libraries and automatic translation on the Internet.

Contemporary authors, therefore, must take into account all supratexts in which their texts will be inscribed, including the *unitext* as the *supratext of all supratexts*. Before using certain words or expressions, one may want to check the presence, frequency, and combinational capacities of these units on the Web. This can help the author to avoid repetitions, inscribing the text into multiple thematic, disciplinary, ideological supratexts, and even projecting the text’s key words as possible entries in the dictionary-like, hypertextual structure of the entire Internet.

Today, any text must be submitted not only to syntagmatic but also *paradigmatic* reading and writing. The syntagmatic dimension

connects each text unit with the surrounding context and is manifested on the printed surface of paper. The paradigmatic dimension connects the text and all its units with their supratexts, which are presented in digital form through actual and potential hyperlinks. This new art of *paradigmatic* writing and reading weaves each textual thread into the multidimensional whole of unitext. In this respect, authors interact with the entire Web, which requires them to be responsible and responsive when selecting words, concepts and metaphors. Each word has to be properly placed not only in its immediate context within a certain text but also in the supratext of its usage by all other authors throughout the history of writing. For example, while writing about “time as a dynamic image of eternity,” one must place this expression within the *vertical* context of supratext, in which it would be compared to the same expressions used by Plato, Bergson, Semyon Frank, and many other less famous authors.

The information retrieved by a search engine—the list of the Web pages that contain a certain word or phrase—is also a new type of textual formation. It can be called *pertext* (from Latin “per,” meaning “through”), and it functions as a table of contents for megatexts or supratexts.³

For example, the initial lines of the *pertext* for the word “poem,” according to Google, are as follows:

Poems | Poetry Foundation
www.poetryfoundation.org › poems
 More than 40000 **poems** by contemporary and classic **poets**. . . .

Poem-a-Day | Academy of American Poets—Poets.org
poets.org › poem-a-day
Poem-a-Day is the original and only daily digital poetry series
 featuring over 250 new, previously unpublished **poems** by
 today’s talented **poets** each year.

The *pertext* is a textual thoroughfare of many different texts connected by a certain unit, such as a word (in this case, “poem”). The *pertext* is complementary to the concept of the hypertext. The hypertext is a coherent text containing links to many other texts, while the *pertext* is a collection of links (or references) to many texts connected by a single word or phrase. We encounter *pertexts* more and more often along with traditional “syntexts,” the coherent texts that are read syntagmatically. *Pertexts* contain the titles of the sites, the names of the authors, initial sentences of their works, Web addresses, and links to those pages where certain words or

expressions are used. If all texts that contain the word “poetry” in them make up a megatext, then the per-text “poetry” serves as a table of content or a collection of references for this gigantic text that, according to Google, contains about 330 million pages.

Multiple *virtual books* are inscribed in any single per-text and may be open for vertical, rather than horizontal, reading. By a “virtual book,” I mean not simply a digitized paper book, but rather a potential book unique to the compositional capacities of the Web. Using various search engines, it is easy to compile a virtual book of any imaginable content, such as an anthology of texts or utterances on any topic. For example, a collection entitled *The Dynamic Image of Eternity* would be composed of all the texts in which this expression is used.

Thus, we read what we ourselves “write,” our own compositions being compiled from Web searches. This new reconfiguration of textuality imposes new obligations on writers and simultaneously expands the potential scope of their works. Each writer becomes a transformer of unitext, a voluntary or involuntary contributor to the hundreds of virtual anthologies, collections, and online dictionaries. Any textual unit (e.g., a sentence, a paragraph, or a page) becomes a wanderer in the digital world, inserted into the multitude of virtual books that emerge only when Web readers need them. It is interesting to note that the Russian word for page is *stranitsa*, which is derived from the same root as *strannitsa* (“a wanderer”). Thus, released from its binding, the emancipated page migrates through disciplines and languages.

From the multitude of such “pages-wanderers,” “stapled” together by the keyword from a Web search, a new virtual book can be compiled in an instant, with the per-text acting as its spine. Writers need to foresee the possibility that each of their pages not only belongs to the original text, but may also fit in the variety of virtual books produced by Web searchers.

If in the pre-electronic era supratexts were perceived as abstract sets or speculative constructions (historical, aesthetic, literary), now they are as easy to read, or at least to look through, as traditional “connected” texts produced by their authors. Per-text, or the table of contents of supratext, which appears as a result of the Web search, is like the spine of a new virtual book instantly compiled from a variety of sites on the basis of matching the search word, phrase, or fragment.

Any text is now included in a variety of megatextual, supratextual, syntextual, or unitextual formations of different levels and

has to be written and read, or rather read and rewritten, through all of these configurations as their potential link. Therefore, the interpretation as a semantic interpretation of a given text is increasingly supplanted by its *retextualization*—expansion or contraction of its textual frameworks. Deep semantics of the text is replaced by the dynamics of changing configurations of the electronic textual universe. The meaning is transferred from a semantic plane into a syntactic one. If earlier the richness of meaning was projected—through interpretation—to the outside of the text, the sphere of its signifieds, now it is projected on the textual environment, its shifting configurations.

TRANSLINGUALISM: INTERLATION VS. TRANSLATION

The globalization of cultures radically changes the role of languages and translation. Transculturalism presupposes *translingualism*, or what Mikhail Bakhtin called *polyglossia*: “Only polyglossia fully frees consciousness from the tyranny of its own language” (1981, 161). With the spread of multilingual competence, translation is becoming a dialogical counterpart to the original text rather than its substitution. While bilingual or multilingual persons have no need for translation, they may still enjoy *interlation*—a simultaneous contrastive juxtaposition of allegedly “equivalent” texts in two or more different languages.

Interlation is a multilingual variation on the same theme, with the roles of source and target languages becoming interchangeable. In his essay “The Homeric Versions,” J. L. Borges famously argued that we could only evaluate a translation and original fairly if we had no prior knowledge of which is which. What is more important here, however, is not the comparative value of the original and its translation(s), but their complementarity and mutual enrichment. One language allows the reader to perceive what another language misses or leaves unclear.

I will cite one example of *interlation* from a poem by Joseph Brodsky in Russian and its English auto-translation. The original line *Odinochestvo est' chelovek v kvadrate* in Brodsky's poem “To Urania” literally reads: “Loneliness is a person squared.” Brodsky himself reconfigures this line into English as “Loneliness cubes a man at random” (PBS NewsHour 1996).

It would be irrelevant to ask which of these expressions, Russian or English, is more adequate to Brodsky's poetic thought. Both

are necessary to embrace the scope of its metaphoric meaning. Both a square and a cube represent the inescapable self-reflexivity and self-multiplication of a lonely person; they convey loneliness as geometric projections intensified by the dimensional transformation of a square into a cube. For bilinguals, this poem becomes a work of unique art that can be called *stereo-poetry*, which contains more metaphorical levels than mono-poetry. In Brodsky's poem, the *stereo effect* is produced by the figurative relationship between the Russian and English lines: the English "cube" amplifies and strengthens the meaning of the Russian "square." Both the "cube" and the "square" serve as metaphors for loneliness, and at the same time these two words are metaphorically related to each other.

Robert Frost famously said that "poetry is what gets lost in translation." By contrast, *interlation* doubles or multiplies the gains of poetry. In addition to metaphors that connect words within one language, a new level of imagery emerges through the metaphorical liaison between languages, producing a surplus of poetic value, not its loss. It can be said that poetry is what is found in *interlation*.

The author may intend a certain stereo effect, or it can also be achieved through the experience of reading multiple versions of a text. For example, Vladimir Nabokov's autobiography can be read as a *stereo-text* in two languages (English and Russian) and in three consecutive versions: *Conclusive Evidence* (1951), *Drugie berega* (1954), and *Speak, Memory* (1964). Nabokov himself emphasized that these versions are far from being mere translations, rather they relate to one another as metamorphosis:

This re-Englishing of a Russian re-vision of what had been an English re-telling of Russian memories in the first place, proved to be a diabolical task, but some consolation was given me by the thought that such multiple metamorphosis, familiar to butterflies, had not been tried by any human before. (Nabokov 1964, 12-13)

Thus, at the crossroads of languages, a new work of *stereo-poetry* or *stereo-prose* is born which can be characterized in Bakhtin's words: "In the process of literary creation, languages interanimate each other and objectify precisely that side of one's own (and of the other's) language *that pertain to its world view*, its inner form, the axiologically accentuated system inherent in it" (1981, 62).

Translation as the search for equivalence dominated the epoch of national cultures and monolingual communities that needed the bridges of understanding rather than the rainbows of co-creativity.

When languages were enclosed within monoethnic cultures, their combination was perceived as an artificial device. In the past, the deliberate mixture of languages called “macaronic” were mostly used for comic effect. With the globalization of cultures and automatization of translation, the *untranslatability* and *nonequivalence* among languages come to the foreground as genuine polyglossia. In the proto-global society, a *stereo-poem* written partly in English, partly in French, and partly in Russian could find a trilingual audience that would be able to savor precisely the meaningful discrepancies between the three languages in which the poem is created.

In the course of time, *stereo-textuality* may come to be viewed as a distinct form of verbal creativity and not just as an exotic outcome of the growing multilingualism. It is known that stereo-cinema (3D film) reproduces sights and stereo-music reproduces sounds more naturally than their mono predecessors. The same can be applied to our intellectual vision and conceptual hearing. Can an idea be adequately presented in only one language? Or, do we need a *minimum of two languages* to convey the range of thought just as we need two eyes to see and two ears to hear? In the near future, we can envision a set of new multilingual creative activities in the venues of *stereo-poetry*, *stereo-philosophy*, *stereo-aesthetics*, and *stereo-criticism*. They will draw from a variety of languages and capitalize in meaningful ways on different worldviews. Multilingual writing or, to use Bakhtin’s words, the “mutual illumination and interanimation of languages,” may become as conventional for the global age as stereo-music and stereo-cinema are conventional today.

IDEAS AND PUBLICATIONS

Niels Bohr famously said to Werner Heisenberg: “We are all agreed that your theory is crazy. The question that divides us is whether it is crazy *enough* to have a chance of being correct.”

What does it mean, in our current intellectual environment, for an idea to be “crazy enough”? What now is the status in the humanities of the counterintuitive, the impulse to contradict the authority of established ideas, to challenge the prevailing views of the scholarly community, to subvert the intellectual status quo, whether it consists in honorable traditions or obsolete superstitions?

What is at stake is the initiation of a form of chaos, the introduction of creative chance into a system of broadly accepted facts and interpretations, with the precise aim of renewing and reinvigorating

that system. Is it simply a matter of pursuing, as with Jean-François Lyotard, a knowledge or practice that has no existing model, a disturbance in the order of reason by a power manifested in new rules for understanding, an “experimental or paralogical science”? Are we always faced with the unappealing choice between a dutiful and at least implicitly empirical humanities and an unbridled and, properly speaking, aimless impulse for anarchic experimentation, which runs the “risk” (or perhaps this is in fact its “aim”) of destroying the paradigmatic foundations on which the humanities are precariously built? How, in other words, can what is “crazy enough” be accommodated in the humanities in ways that, on one hand, do more good than harm, and, on the other, do not involve the “domestication” of the new element, the loss of its innovative force in the process of appropriation?

In science, where we may be tempted to conclude, rightly or wrongly, that there is “more at stake,” the situation is, paradoxically, more straightforward. The history of science shows clearly that many of the key ideas that revolutionized our scientific worldview appeared not as a result of accepting established facts, but rather from a process of contradiction and open confrontation. Paul Feyerabend, in a silent parallel with Lyotard, has formulated the rule of “counterinduction,” which proposes “the invention and elaboration of hypotheses inconsistent with a point of view that is highly confirmed and generally accepted” (1975, 47). According to Feyerabend, an approach calling for the development of hypotheses that are not compatible with observations, facts, and experimental results does not really need to be defended, since there is not a single interesting theory which is compatible with all known facts. It is in fact the discrepancy between the observable and the conceivable (or theoretical) that acts as a catalyst for scientific thinking, allowing the discovery of new “facts” and the revision of old ones:

Knowledge so conceived is not a series of self-consistent theories that converges towards an ideal view; it is not a gradual approach to the truth. It is rather an ever increasing ocean of *mutually incompatible (and perhaps even incommensurable) alternatives*, each single theory, each fairy tale, each myth that is part of the collection forcing the others into greater articulation and all of them contributing, via this process of competition, to the development of our consciousness. (Feyerabend 1975, 30)

This ought properly to be even *more* apparent in the humanities, where the key paradigms are much less clearly defined and where

professional communities are much less rigidly organized. Yet, in another paradox, the rule (or promise) of “counterinduction” is much less prevalent in the humanities, directly contradicting the potential for a methodological breakthrough that derives from the unstable nature of their methods and conventions.

The requirement that reason itself be exposed to the renewing power of counter-intuition is at least as old as the Enlightenment that raised reason (and science) as its defining principle. We live in a time when, for the humanities more than the exact sciences, this requirement has become critical. It was Pascal, long before Bohr, who said that “there is nothing so conformable to reason as this disavowal of reason.”

The counterintuitive principle in the humanities calls to create *drafts* that might be elaborated and consummated by other authors, and to offer *hypotheses* that may or may not be proven or implemented by other researchers. Nothing unites one mind with another better than a flash of a new idea. Some ideas may well prove faulty, but the same rule should apply in the sphere of knowledge that applies in justice. It is better to acquit ten guilty people than to convict one innocent. It is better to voice ten faulty ideas than to silence a single true one. Furthermore, it is likely that there are no faulty ideas, just more and less productive ones.

Where in academic journals can we find a place for counterintuitive ideas or for a section of “Drafts and Hypotheses” that would legitimize publication of unconventional and challenging contributions? The stifling atmosphere in these journals is caused by the system of peer reviews that in my view needs radical reassessment.⁴ The most innovative ideas encounter the strongest resistance of this system allegedly designed to maintain the professional level of publications. These filters partly fulfill their function, but they also promote mediocrity and uniformity. All articles appear to be written by the same author, following the same standards. To penetrate through the filter of anonymous reviews, authors have to become anonymous themselves, to sacrifice their individuality that may misfit the common standard.

I believe that professional filters and peer reviews are useful only at certain stages of academic career, as a pedagogical instrument to train graduate students, postdocs, perhaps assistant professors. But submissions of established authors, at the rank of tenured faculty, should be presumed qualified enough to be accepted for publication

without filters. The evaluations should be given by readers or reviewers *after* the publication. This would encourage a greater degree of originality as the authors are not submitted in advance to intellectual censorship. The innovative ideas should be allowed to reach freely the audience that in its turn is allowed to judge the value of these ideas.

A worthwhile experiment would be to build a repository of new ideas in the humanities that would accept electronic preprints for circulation even before the professional journals will make decisions on their publication. Such a database for physics, mathematics, and other hard sciences exists at Cornell University Library under the world-famous address: *arXiv.org*. It was established in 1991 and now contains about one million publications. Almost all scientific papers in many fields are self-archived there. Many e-prints have also been published in professional journals but some works, including most influential papers, remain purely as e-prints and are never published in a peer-reviewed journal. For example, Grigori Perelman's famous proof of the Poincaré conjecture has remained an electronic preprint (2002), although it was later awarded the Fields Medal (2006) and received a Millennium Prize (2010).

Imagine that Perelman were a philosopher, a linguist, or a literary scholar rather than a mathematician. By which channels of communication could we learn about his breakthrough contribution if it has not been accepted to a professional journal? It would take building a similar arXiv of e-ideas in the humanities, or a *Repository of Humanistic Imaginaries*. Or perhaps even an *Inventory of Humanistic Inventions*, given that the criteria of what to consider a humanistic invention could be clearly pronounced. The task of the *Inventory* would be to present new ideas in the most direct and condensed form and to provide a public forum for their discussion.⁵

Any educated person today can easily compile a list of the great achievements of science and technology for the past century: from relativity to quantum mechanics, from the Big Bang to the double helix, from Apollo missions to the Higgs boson. By contrast, we have to acknowledge, in the words of Gideon Rosen: "What does the average educated American know about the great scholarly achievements in the humanities in the past half-century? Nothing" (2014).⁶

Do we have to blame our fields and disciplines for their obscurity in public awareness, or is it our own professional fault? Considering

this issue, I have to disagree with Professor Rosen who continues: “Like discoveries elsewhere in the humanities, discoveries in philosophy are *incompressible*: Their interest can only be conveyed at length by taking one’s interlocutor through the argument” (2014). Is it true? There are dozens and hundreds of various compressions for philosophical ideas of Plato, Descartes, Kant, Hegel, Nietzsche and Husserl. Their thoughts are so clear and original that there is no problem in compressing them at any desirable length, from an aphorism to a concise exposition in a popular book to huge volumes or series of monographs . . . The same applies to the truly significant innovations in the fields of psychology, linguistics, or cultural studies. It depends on the quality of our creative thinking whether its results are compressible and can be processed for inclusion in the *Inventory of Humanistic Inventions*.

* * *

Academia’s failure to recognize the cognitive status of the transformative humanities raises the question of whether various intellectual capacities are adequately represented at our universities. For the humanities to increase their intellectual impact on contemporary society, it is vital to unite their transformative branches by establishing schools of humanistic technologies and inventions as indispensable parts of the *future-oriented university* (modeled on schools of Law, Business, Medicine, and Theology).

An educational program uniting major fields of the humanities could be established under the acronym PILLAR: *philosophy, intellectual history, language, literature, art, and religion*. (Intellectual history, or the history of ideas, as a branch of the humanities can be distinguished from political and economic history as a social science.) PILLAR addresses the concern that these six subjects are often taught in isolation rather than, as they ought to be, in an integrated curriculum. PILLAR would be a transdisciplinary strategy complementary to STEM, a curriculum based on the idea of educating students in four specific disciplines—science, technology, engineering, and mathematics—in an interdisciplinary and applied approach. Rather than teach the six humanistic disciplines as separate and discrete subjects, PILLAR integrates them into a cohesive learning paradigm based on real-world and future-oriented applications. What separates PILLAR from the traditional education in arts and humanities is the holistic learning environment showing students how the humanities can be applied to the creative transformation of

culture. PILLAR integrates not only traditional areas of the humanities but also scholarship and inventorship.

Academia needs constructive minds in the humanities no less than they need academia. According to Alfred North Whitehead, “the task of a University is the creation of the future, so far as rational thought, and civilized modes of appreciation, can affect the issue” (1983, 233). Humanistic *inventorship*, even more directly than humanistic scholarship, shapes our future.

NOTES

- ¹ Marjorie Perloff in her paper “Crisis in the Humanities” even suggests to replace the very term “humanities” by the more traditional “art”: “We can think more seriously about the state of the ‘humanities’ if we begin by getting rid of the word ‘humanities’—a word, incidentally, of surprisingly recent vintage. The first edition of the OED, whose supplement appears in 1933, does not include it at all. *Humane, Humanism, humanist, humanity, humanitarian*: these are familiar cognates of the word *human*, but *humanities* was not the term of choice for an area of knowledge and set of fields of study until after World War II. The more usual (and broader) rubric was Liberal Arts, Arts and Sciences, or Arts, Letters, and Sciences.” <https://writing.upenn.edu/epc/authors/perloff/articles/crisis.html>. I would suggest that instead of substituting one term for another, we could combine them productively in the expression “the art of the humanities,” thus emphasizing their creative and transformative dimension and contrasting them with “humanistic scholarship.”
- ² See manifestos submitted for the conference “Beyond Crisis: Visions for the New Humanities” (Durham University, July 7–8, 2014) at the site of the Centre for Humanities Innovation of Durham University: <https://www.dur.ac.uk/chi/tasks/>.
- ³ We must distinguish between the “pertext,” as a web phenomenon, and the more conventional literary term “paratext,” which Gérard Genette (1997) defines as those elements that accompany a published work, such as its title, preface or introduction, its illustrations, the name(s) of the work’s author(s), etc.
- ⁴ See Remco Heesen and Liam Kofi Bright’s essay “Is Peer Review a Good Idea?” The authors conclude that “pre-publication peer review should be abolished” (2018, 1).
- ⁵ See the Repository of New Ideas at the site of the Centre for Humanities Innovation of Durham University: <https://www.dur.ac.uk/chi/ideas/>.
- ⁶ Gideon Rosen is Stuart Professor of Philosophy, chair of the Council of the Humanities, and director of the Program in Humanistic Studies at Princeton.

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