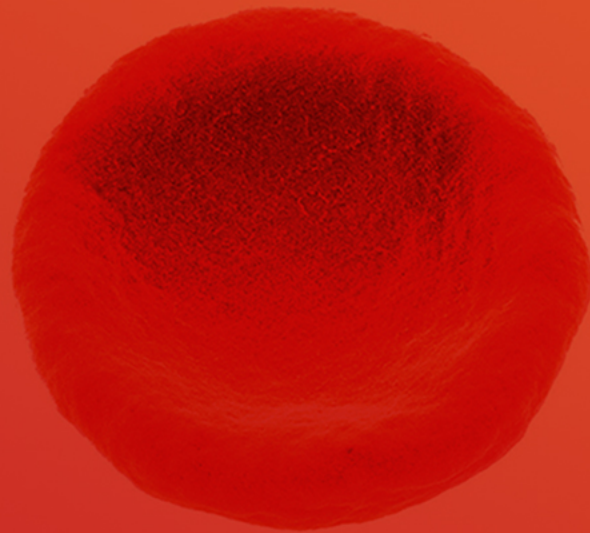


MOLECULAR RED

READER



COMPILED BY

MCKENZIE WARK

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INTRODUCTION

by McKenzie Wark

SOMETIMES to take three steps forward one has to take two steps back, back into the archive, to find the materials for going on, but in a new way. I just don't think the canonic theoretical resources trotted out over and over are adequate any more to understanding the present. We need new ancestors, and new ways to read our contemporaries.

This reader compiles material on two such ancestors, Alexander Bogdanov and Andrey Platonov. The former is all but forgotten except to specialists; the latter has been recuperated as the author of modern literature but not as a significant Marxist thinker. There may well be other resources in the archive for other projects, but for me these were the ones with which to start thinking a critical theory for the Anthropocene—or whatever else you might want to call this unprecedented situation in world history.

Thanks to the generosity of David Rowley, Evgeny Pavlov, and *Historical Materialism*, I include here their translations of two Bogdanov texts, one on his relation to Marx and a second on his vision for a new practice of knowledge. Also included is Evgeni's translation of Bukharin's eulogy for Bogdanov. Also here are Anna Kalashyan's translations of two Platonov texts and, thanks

to *New Left Review*, a translation of another of his occasional pieces.

In *Molecular Red*, I tried to use the Soviet experience, as understood by Bogdanov and Platonov, as an allegory for our own times. That Soviet civilization fell apart after barely a century ought not to give the victors of the cold war much comfort, as the fall of that civilization seems to me more to prefigure the fall of our own.

And so in the second half of *Molecular Red* I went looking for the contemporary analogues of Bogdanov and Platonov. How might we think the present from the labor point of view? How might we reorganize knowledge as a collaborative practice in the interests of collective labor? What role might the utopian play as a practical guide to organizing labor for its historical tasks?

At the end of this reader is a draft of a chapter I dropped from the final manuscript, about the work of Paul Prčićado (formerly known as Béatriz) and an interview I conducted with Kim Stanley Robinson (reposted from *Los Angeles Review of Books*). These resources might help orient the reader to the questions of rethinking what the labor point of view might mean now and also how Bogdanov's utopian writing might be reimaged.



BOGDANOV FOR THE WIN!

by McKenzie Wark



THIS is a famous picture of Lenin playing chess with Alexander Bogdanov while Gorky looks on. Bogdanov won. According to Gorky, Lenin was a bit of a sore loser about it. But then Lenin did manage to checkmate Bogdanov's influence in the Bolshevik faction and have him thrown out, so in the long run Lenin won everything.

Bogdanov would be remembered in the Soviet Union mainly through Lenin's attacks on him, in Lenin's book *Materialism and Empirio-Criticism*. This version of the photo is one of those creepy ones in which several other people have been erased. Bogdanov's fate was in some ways even worse: officially designated as The One Who Had The Wrong Philosophy.

This sort of thing always makes me curious. Who was Bogdanov? What was his life and work all about? Not reading Russian, it was hard to find out. Not much is in translation, and still less is in print. His magnificent utopian novel, *Red Star*, is available from [Indiana University Press](#), at least as an ebook. Fortunately there is now a [resource page](#) for rare, out of print material in English and French.

So why Bogdanov? Firstly, for his revival of the utopian imagination in the light of Marx. He understood the emotional power of a promised land, but unlike Gorky was not tempted by 'God Building'. He was more interested in opening the imaginative faculties to thinking about this world. His utopia, even though set on Mars, is practical.

Secondly, for Proletkult. Bogdanov initiated a mass movement in 1917 that tried to become a counter-power to the state, but whose mission was proletarian culture. How could the people learn to organize themselves and their world? How could the literary classics of the past, [even Shakespeare](#), be a way of learning what organization is? Proletkult was about learning forms of self-organization that can exist outside of capital and the state.

Thirdly, his [tektology](#). How can all organizational tasks, whether the organizing of labor's relation to nature, or the organizing of different kinds of labor with each other, share and develop knowledge? Bogdanov thought that after the revolution, the real organizational work was just starting, and that the real question was labor's relation to nature.

We don't have that luxury. We are going to have to figure out a new relation between labor and nature while capitalism—or whatever this mode of production is—still lumbers along, turning everything into the commodity. But I think Bogdanov is a useful guide to thinking and organizing otherwise. After all, as I show in *Molecular Red*, he almost figured out anthropogenic climate change.

Sometimes to take three steps forward, one needs to take two steps backward, back toward what for [Paolo Virno](#) is the potential of history, but sometimes too to return to particular resources for moving forwards. And so, back to Bogdanov—for the win.

WHAT IS KARL MARX? (1913)

by Alexander Bogdanov, translated by Evgeni V. Pavlov

HE died so long ago... and yet the word “death” still strangely does not belong to his name. After him, just like after any other man, remains basically only one thing—his cause. And no man on this earth has ever left after himself such a gigantic legacy.

This legacy is *the idea, the organization, the example of life.*

The idea... He transformed political economy, history, and the entire realm of the social sciences; he gave philosophy a new soul. Not only his friends but even his enemies are again and again borrowing from the richness of his thought and knowledge, and they will continue to do so for a long time. At the basis of it all lies one all-unifying living idea. In itself it is a very simple idea, but not everyone is able to understand its magnitude.

Three and a half centuries before Marx there lived a humble astronomer called Nicolas Copernicus. He also transformed the science of his time and he also had one simple idea; this idea is very similar to that of Marx.

Ancient astronomers dutifully observed the heavens, studied the motions of the planets, and saw that they were ruled by a deep, elegant and immutable regularity that they tried to express and explain to others. But here they found

some strange confusion. The planets were moving among the stars sometimes slower, sometimes faster. At times they seemed to stop and turn around, and then go again in the same direction as before; and after some months and days have passed they appear in the same place where they were before and the entire process begins again. New complex theories had to be created in which each planet had its own sphere, with its own orbits that rotated alongside other orbits and so on. But the confusion remained and the calculations were extremely difficult to complete.

Copernicus had an idea: perhaps everything is so complex and confusing because we are looking at it from *Earth*? What if we change the point of *view* and try, of course only mentally, to look at everything from the *Sun*? And when he did so, it turned out that everything was simple and clear: the planets, including Earth, were moving in circular and not tortuous orbits, and the Sun was their center. The only reason that this was not clear before Copernicus was because everyone thought Earth to be immovable and its own movement was confused with the movements of other planets. Thus a new astronomy was born, and it explained to everyone the life of the sky.

Before Marx, bourgeois scientists viewed and studied the life of the society, naturally, from the *point of view of their own position in this society*, from the point of view of the class that does not produce anything but that subjugates and uses the labor of others. But from this point of view not everything is visible, many things appear in a distorted form, and many movements of life become so confused that they cannot be properly understood.

What did Marx do? *He changed the point of view*. He looked at society from the point of view of those who produce, from the point of view of the working class, and everything turned out to be very different. It turned out that the center of life and development of the society was found there, that this was the Sun on which depended the ways and the movement of human beings, groups and classes.

Marx was not a worker; but through the power of his mind he was able to fully understand the position of the worker. And he found out that with this transition everything immediately changed its contours and forms. The powers of things and causes of events were revealed to the human eyes in a way that was not possible from the old point of view. Reality, truth, even the everyday appearance of things changed and became something different, often something opposite to what it was before.

Yes, even the way things appear to us! What can be more obvious for

a capitalist than the fact that he feeds the worker? Does he not provide the worker with the work and the salary? But for the worker it is no less obvious that they are the ones who feed the capitalists with their labor. And in his discussion of surplus value Marx demonstrated that the first view was an illusion, an appearance that was similar to our everyday perception that Sun moved around Earth, but the second view was the truth.

Marx discovered that all human thought and feeling received different direction and were formed differently depending on the class to which these human beings belonged, that is, depending on their position in relation to production. Different interests, habits and experiences lead to different conclusions. What is reasonable for one class is ridiculous for another, and conversely what is just, lawful and normal for one class is injustice and misuse of power for another. What appears as freedom to one class, looks like slavery to another. The ideal of one class causes horror and disgust of another class.

Marx summed it up thus: "it is their social existence that determines their consciousness." Or, in other words, thoughts, aspirations and ideals are determined by the economic situation. It is with the help of this idea that he transformed social science and philosophy. It is on this idea that he founded his great doctrine of the class struggle and its role in the development of society. He studied the path of this development and showed where it leads and which class would create the new organization of production, what this organization would look like and how it would end the division of classes and their long struggle.

Marx was not a worker. But it was in the working class that the great teacher found the foothold for his thought, the point of view that allowed him to penetrate the depth of reality and to help him discover his idea. The essence of this idea is the self-consciousness of the working proletariat. That is why Marx more than any other thinker belongs to the proletariat.

He belongs to the proletariat also as the great organizer. He changed the idea of the proletariat into a mighty instrument of organization. Sixty six years have passed since the words of the famous manifesto he co-wrote with Engels called the world to unity. And the echo of the living life continues to repeat them, louder and louder, reaching the farthest corners of the planet. In the east and in the west, gigantic organizations are formed under the slogans of this manifesto; and they are growing, gathering forces, unstoppable, faster and faster, forming an avalanche of History.

The fate of Marx the organizer was tragic as it was full of brilliant victo-

ries but also of heavy defeats. Not once did cruel fate destroy what he built up at the price of great efforts. As a true organizer he did not lose courage in the face of difficulties. He waited for the right moment and conditions and again began his work with more determination and scope than before. The organization that he founded in Germany during the epoch of the 1848 revolutions fell apart under pressure from reaction. Marx found himself in exile in a foreign land. But years passed and together with his comrades he founded an international society of workers and led its work, relying on his mighty ability to persuade others. It turned out that the time for this organization has not yet come. At first it grew and expanded, but later it was discovered that it tried to unite elements that were too different. Working proletarians, the people of unity and comradely discipline, could not get along with anarchists who were in some cases part of an embittered petite bourgeoisie that was perishing under the blows of capital and in other cases lumpen proletarians who were not connected with production and were not sufficiently educated by the participation in production. Anarchists split the organization and it soon died.

It was Marx's favorite child ... He, of course, did not doubt that it would rise again. But he did not get a chance to see it. He died six years before it happened.

It is true that he did see how Social-Democrats and other young workers' parties, inspired by the same ideas, grew in Germany and other countries. But how happy would he have been if he were to learn that the world organization to which he gave so much was to rise again and expand tens times larger than before, that it would at some point ideologically connect over twenty five million people. He was not given this happy opportunity...

Marx was an example of a *human being*, that is to say, of a worker and a fighter. Labor and struggle constituted his life as they do the life of the working class. And his life was as pure as the banner that he carried throughout it.

In Marx there was embodied a new type that merged creative thought and creative practice into one inseparable harmonious whole. And in that he belongs to the new world.

At the same time as Marx there lived another great man of science, another son of bourgeois society, Charles Darwin. When Darwin made his discovery regarding the origin of the species of living beings, Marx at once understood and appreciated the significance of this revolution in science. Later Marx showed this understanding when he sent Darwin his greatest work, *Capital*. But Darwin never bothered to read it. The genius of the proletarian

world was able to understand the genius of the bourgeois culture, but not the other way around.

There was no realm of knowledge foreign to Marx. He studied everything, his untiring mind was interested in everything. And in this he is the proletariat's closest kin. A worker does not have a lot of free time, but he wants to know everything: nature whose resistance he overcomes with his hands, society in which he is fighting, and the realm of science where he is looking for direction for his life.

Marx's genius is the soul of the working class that reflected itself and came to know itself in the most powerful brain of the nineteenth century.

THE SCIENCE OF THE FUTURE

by Alexander Bogdanov, translated by David Rowley

ANY organisation is organised precisely to the extent that it is integrated and holistic. This is the necessary condition for viability. This is also true of cognition, once we recognise that cognition represents the organisation of experience. Therefore cognition always tends toward unity, toward monism. In the history of humanity, there have been various means by which this monistic tendency has been accomplished.

The first worldviews were, as we know, religious. They appeared and became dominant in the era when the division of labour in society was still weak. Because of this, these worldviews did not involve any significant degree of specialisation, and they were distinguished by their simplicity and wholeness. All the material of experience was aggregated around a chain of authorities in the form of their precepts or revelations. The methods of these worldviews were undifferentiated and essentially boiled down to authoritarian causality. In developed religions, a unified structure was achieved through the centralisation of authority in the form of a supreme deity.

In a social system based on exchange, the broad and increasingly deepening division of labour resulted in the fragmentation of social experience and

the specialisation of knowledge. The technological sciences directly corresponded to various branches of production—for example, agronomy to farming and various fields of technology and applied mechanics to various realms of industry. ‘Abstract’ sciences—mathematics and the natural and social sciences—were applied, it is true, in many fields simultaneously. Mathematics, for example, was employed in all fields. Astronomy—to the extent that it was used to measure time and to determine location and direction—was also employed in all fields. Zoology was employed in fishing, hunting, and cattle breeding, and also in agriculture to the extent that it is necessary to study animals that are harmful or useful for agriculture. And so on. But each of these general sciences itself became a particular specialty, elaborating its own particular technology and sharply separating itself from other scientific specialties and even more from technological specialties. It is precisely in our times that the most perfect type of specialist has appeared—a person with narrow one-sided experience, routine methods, and a complete lack of understanding of nature and life as a whole.

Specialisation is a necessary stage in the development of labour and cognition. Thanks to specialisation, a continually growing quantity of material builds up in each sphere of experience, and methods achieve a previously inconceivable perfection and refinement. Narrowing the field of work for separate individuals, specialisation permits a much better and more complete mastery of these fields. But, like any adaptation in life, specialisation also contains elements that resist adaptation. As specialisation develops, its limitations are revealed ever more sharply. In our times, the need to overcome specialisation has already become obvious, and, moreover, the path toward overcoming it has already become apparent.

Specialisation stands in contradiction to the tendency toward the unity of knowledge. It breaks up experience into pieces so that each is organised independently. As a result, two hugely important negative phenomena characteristic of contemporary science come about: an excessive accumulation of material and heterogeneous methods of cognition.

The accumulation of material in each special science is now so great that it can be mastered only after many years of study. For people of average abilities, sometimes even an entire lifetime is not enough. It is very rare that scientists are able to work in two or three specialties. More often they are completely closed off, each in their own field, and outside that field they become the most maladapted, limited people.

This insularity and limitedness sustains, consolidates, and intensifies the divergence of scientific methods. Every specialty works out its own separate methods in isolation—otherwise it would not be able to stand apart. As time goes on, it develops its methods in a one-sided way, moving ever further away from the methods and points of view that are developed by other fields. This is useful for continuous improvement in minor details, but it severely hinders any progress in the bases and the principles of a given science. Furthermore, an extreme conservatism of specialisation arises—‘the philistinism of specialisation’, in the expression of Mach—a kind of professional obtuseness, which is why the greatest discoveries of past centuries usually encountered the most resistance from official representatives of that same branch of knowledge. There are as many examples to cite as one would like. One need only recall the disdainful indifference with which learned physicists reacted to the brilliant idea of Robert Meyer when he first formulated the idea of the conservation of energy or the bitter struggle that had to be waged in the last century to support the theory of evolution of animal and plant forms. Subsequently, after a discovery is finally adopted by the mass of specialists, they, of course, successfully apply it further and improve it in particular details, without abandoning their fundamental conservatism in the least, displaying it anew at the next revolution in science.

If we examine more closely how these revolutions occurred and what they involved, we find that they usually involved the destruction precisely of the boundaries between specialties. Some technique, method, or point of view that had already been applied in one field of science or production was transferred to another and transformed it. Thus, the law of the conservation of energy was actually the idea of the indestructibility of existence that had long ago been introduced into chemistry by Lavoisier and was already known in philosophy by the ancients, but only in the 1840s was it applied to the phenomena and forces studied by physics. And Lavoisier arrived at the law of the eternal existence of matter because he was the first to use the method of accurate weighing in his research in chemistry—a method of which had long been used in physics. And the technique had been borrowed by physics from the technology of mining and the jewellery trade, where strict determination of specific gravity of minerals, metals, and alloys is important. Darwin reformed biology by introducing the principle of the struggle for existence which he took from the economic doctrine of Malthus. Marx applied the dialectic—formerly only a philosophical method—to the social sciences. The greatest successes in physiology have

been due to methods of physics and chemistry, and contemporary psychology depends to the same extent on the methods of physiology.

This all speaks clearly to us of the possibility—and even the necessity—of drawing together and unifying the various scientific methods and thereby overcoming specialisation. But as long as specialisation still rules, the unity of science is impossible, and social experience remains fragmented and unorganised as a whole. It is from this state of affairs that the need for philosophy arises.

Philosophy is nothing other than precisely the striving to organise what has been divided and broken up by the force of specialisation. This is the meaning and significance of philosophy; this is why it is historically necessary. But this is also the basic contradiction of all philosophy—the tragedy that is characteristic of it and inseparable from it.

In human practice, social experience is, *in reality*, atomised. Is it possible for a philosophical construction to combine, to connect what reality has disunited? It is *objectively* impossible to achieve this; the task becomes *objectively* achievable only when reality changes, when practice ceases to be broken up and disconnected and when specialisation is overcome by life itself. No power of thought is able to gather and organise into a living whole the pieces of a body that has been torn apart. Philosophy cannot work miracles, and to resolve the tasks placed before it with the means available would indeed be a miracle.

Does this mean that philosophy is fruitless and impotent? Not at all. Philosophy cannot resolve its task as a whole because society and its experience are not organised as a whole. But, all the same, exchange society is not an absolutely anarchical system, and the division of labour does not signify the disintegration of the social whole into completely separate individual units. Specialisation *does prevail* over the opposite tendency, and the struggle between enterprises and groups *does prevail* over the connection between them, but communication nevertheless occurs. Specialties are not so restricted that there is no contact between them. Collective organisation of experience is *being created*. If this were not the case, there could be no talk of society—the very word would lose its meaning.

Let us take, for example, the handicraft system at the end of the Middle Ages, characterised by extremely sharp specialisation. Each craft was organised separately and independently of others—even now, the word ‘guild’ is a synonym for ‘specialty’. However, it was not accidental that guilds supported each other in the struggle with the old aristocratic patricians of trade. It was not accidental that they acquired an extremely similar internal structure; it was

not accidental that they developed approximately the same moral norms. A practical community of interests and experience obviously existed. And, actually, no matter how dissimilar the technologies of the various handicrafts were, they still had much in common in their ongoing manual techniques, in the simplicity of their tools, in the small scale of their production, and in quite a number of relationships among producers that arose from these factors. This commonality found expression in similar methods of thought, of faith, of political views, etc.

The historical life of exchange society proceeded dialectically, in the genuine meaning of this term; the separation of social human beings and the gathering together of those same human beings—presenting two opposing tendencies—took place simultaneously. In the beginning, fragmentation predominated, inhibiting the process of aggregation so much that it completely masked it, making it invisible to ordinary, imprecise observation. Subsequently, aggregation gained momentum and little by little prevailed over fragmentation. It was not long before the relationship between aggregation and fragmentation was completely reversed.

This means that philosophy can organise general social experience to the extent that experience is in reality tied together and united by life itself. Within these confines, the unifying models of philosophy will be objective; outside these confines, they will inevitably be arbitrary and will have significance only for particular groups or schools and sometimes even for only an individual. For example, in all modern philosophy—down to and including German classical idealism—there is an underlying individualistic point of view; the separate human individual is taken to be the centre of activity, the subject of cognition and moral duty. This is an *objective* philosophical generalisation regarding *those* eras and regarding the developing bourgeois-capitalistic system. It is accepted by everyone, both in life and in theory, as something that is self-evident. On the contrary, any doctrine of monads or atomism, theories of ‘things-in-themselves’, or the principle of the creative ‘I’ which ‘posits not-I’, belong to the realm of the debatable and the unreliable. All of these doctrines are individual attempts or, at most, group attempts that are incapable of grasping and organising social experience as a whole. They are incapable of attaining the power of objectivity; they are products of limited experience that appear as universal truths only to their creators and their creators’ disciples. But, as with all sorts of organised endeavours, even goals only partly achieved provide material for further unifying work.

The saddest fate that can befall philosophy is when the power of specialisation completely predominates and creates a kind of guild philosopher—‘a philistine of a specialty’. This is a completely perverse outcome, one of the most absurd results of the atomisation of humanity. Philosophy exists precisely in order to organise the disparate parts of experience into one whole, to establish the interconnectedness which was destroyed by the division of labour and by the professional narrowness that it produced. And now philosophy itself becomes just such an isolated part, a particular branch in the division of labour with its own professional narrowness—and what narrowness! The result is an individual with a study and a library who can, of course, organise only what that individual possesses, which is, to be precise, the experience of their study and their library—an infinitely small and very unimportant portion of the gigantic amount of material which genuine philosophy must deal with. Each of these individuals reads a hundred or a thousand philosophical books that are taken from outside of the reality which gave birth to them and from outside of the interests, forces, and social struggles that are reflected in them—the preserved, cold corpses of experience lived by other people. These corpses are dissected, scholastically investigated, and cut up into small pieces, all the while assuming that the highest wisdom consists in the best method of splitting a hair into four parts. Afterwards they take the bits and pieces and stitch them together into a new book which, naturally, also possesses all the characteristics of a corpse, except for one—that a corpse was at one time a living body. Such is the philosophy of true specialists, or of the majority of them, and especially of those who work in university departments of philosophy. Other than in their use of terminology, they have nothing in common with philosophy as a social-historical phenomenon and as a social form of worldview. They provoked Feuerbach’s sarcastic comment that the first indication of a genuine philosopher is not being a professor of philosophy.

As for the great masters of philosophy, they usually had an encyclopaedic grasp of the knowledge of their times, and many of them, in addition to that, were people of practical life and struggle. It is understandable that such people were able to attempt to organise experience as a whole—if not with complete objective success then at least with some benefit for the development of human thought. But the further specialisation has gone, with its accumulation of material and diversity of methods, the more difficult it has become for individuals, no matter how brilliant, to acquire an encyclopaedic knowledge of their times. Ultimately, philosophy—not as the knowledge of guild specialists but

as the actual generalisation of social experience—would simply have been impossible if the new forces of life had not caused a turnabout in its development.

The starting point of this turnabout lies in labour practice—machine production, to be precise.

Machine production arose out of manufacturing, which took the specialisation of labour to its limit. Manufacturing broke work down into such small, elementary operations, that workers who carried them out were reduced to the roles of living machines. But then, since it is not difficult to build a machine to execute a series of simple movements, this made it possible to transfer separate parts of work to real, inanimate machines. And when this was accomplished, it turned out that specialisation was transferred from people to machines.

Work with machines brings together various forms of labour, and the further technology develops, the more fully and thoroughly those forms of labour are brought together. No matter how different the goods that are produced, the producers have much in common in the content of their labour experience. The same basic relationship to the machine, consistent with the predominant nature of effort, is required of the worker—management of the machine, monitoring its movements, intervention to the extent that it is necessary, and, consequently, attention, discussion, and understanding. Physical action on the machine, which is of the most varied kinds, represents a continually less significant portion of the overall sum of labour experiences. Moreover, to the extent that machines are perfected, that portion continually decreases to the point where machines are transformed into a type of automatic process, and the mechanical aspect, proper, of the worker's function completely disappears.

At the lowest levels of machine production there still remains a marked difference between the operating function of a simple worker and the organisational labour of an educated specialist-engineer. As machines become more complex and perfected, this distinction decreases. Automatic mechanisms already require an intellectual preparation of the worker that goes far beyond the boundaries of purely practical skills. Workers must *understand* the mechanisms they are dealing with, not only in those particulars which are at their fingertips, so to speak, but also in general and as a whole. Technical calculation based on knowledge (perhaps not strictly scientific but nevertheless quite precise knowledge) occupies a continually more important place in their activities, both when they simply manage the whole complicated sum total of a machine's movements and especially when small irregularities, which occur quite frequently in the operation of machines like these, demand that workers

consciously take the initiative and intervene quickly and systematically.

The increasing use of mechanisms that are not only automatic but automatically self-regulating will raise the worker to a still higher level. This type of machine will obviously serve as the foundation of the technology of collectivism. At present, this is only on the horizon. Many machines, beginning with steam engines, already are fitted with regulators that mechanically monitor one or another of their functions and correct any irregularities that arise. When such methods achieve full development and become the norm, and when the main occupation of someone who works on machines is to observe and correlate the given state of affairs reported by the monitoring and recording devices and generally to supervise and direct those regulating devices—and all this with the help of appropriate scientific knowledge—then any qualitative difference between a worker and an engineer will disappear, and all that will remain will be a quantitative difference in preparation and proficiency. In this way, labour will be reduced to a single type. The extremely deep divergence produced in practice by specialisation will be removed, the division of labour will cease to fragment humankind, and there will appear a simple division of effort directed at various objects but essentially of the same kind.

Cognition, expressing and reflecting practice, follows behind the progress of practice, and cognition will also experience the convergence of specialties. The transfer of methods from one field to another, which we have already noted, prepares for the elaboration of general, unifying techniques of cognition. Fields formerly extremely distant from one another will merge together—as, for example, in physics the theory of light merges with the theory of electricity—and, by all appearances, in the near future those theories will combine in a general theory of matter. And right now, all physics and chemistry are in effect only subdivisions of general energetics, and psychology is on the path towards merging with physiology, etc. But all this convergence occurs without any planned pursuit of it; it has not been posed as a task for the development of science, and it continually encounters passive and very often even active resistance from many scientific specialists. And they are essentially incapable of posing this task, not only due to force of habit and professional-guild insularity, but also due to the force of their real interests. For such scientists, specialisation is tied to their privileged position. Specialisation denies the mass of the population from being admitted to their circles, it diminishes competition, and it keeps their salaries at a high level.

By contrast, the working class, which in practice is moving toward the

overcoming of specialisation, can and must set the very same task for scientific knowledge. This is a matter of urgent self-interest; it is the precondition for a cultural upsurge to a higher level and for the possibility of becoming the actual master of social life without the tutelage of the departmentalised intelligentsia. This is one of the most important needs of the new *proletarian culture* that is now being born and is taking shape.

What will this unity of cognitive methods look like that will break through the boundaries between specialties and that will organise social experience holistically, harmoniously, and coherently? Our point of view allows us to make a definite and confident prediction about this.

We have seen that the progress of machine production imparts an ever more fully and clearly expressed *organisational* character to the activity of the worker. This is fully consistent with the historical tasks of the working class as a whole—*organisational* tasks of unparalleled breadth and complexity. The resolution of those tasks cannot be haphazard or spontaneous; by necessity it can only be rationally planned and scientific. And this presupposes the unification of all of the organisational experience of humanity in a special *general science of organisation*. Such a science must be *universal* in its very essence.

As a matter of fact, all human activity has one thing in common—the processes of organisation. Technological activity organises elements of external nature in society; cognitive and artistic activity organises the social experience of people. Even destructive work is nothing other than the struggle of various organisational forms or tendencies. As we have already noted, war is an organised dialectical process in which each side is related to the other in the same way that people typically relate to the hostile forces of external nature—i.e. they strive to overcome or incapacitate the objects their energy is directed toward, and they consequently also strive to generally organise the surrounding environment in conformity with their interests. Even the activity of someone who violates the law has—from the violator's point of view—a completely similar meaning. This is all the more true of the technically criminal activity that goes on in the struggle for new, higher forms of social life against the old and obsolete forms.

Even the elemental life of the universe is nothing other than the struggle and development of various types and levels of organisation. In this, human activity is indistinguishable from the activity of the world from which it is crystallised and at the expense of which it continues to grow. A science of methods of organisation must therefore both embrace the methods which nature has

worked out and perfect its own forms of organisation. Universal methodology—this is the essence of this science of the future.

Each of the contemporary sciences, technical and abstract, represents a partial organisation of experience within one field or another. It is clear that, as the general science of methods of organisation emerges, all sciences will conform to it. The particular methods of particular fields will be partial applications of the general conclusions of the general science. This will represent the real overcoming of scientific specialisation. The differentiation between the fields of cognition and practice will remain, but this will not mean that those fields will be isolated from one another, that they will develop separately, or that they will continue to diverge. They will be vitally and ever more tightly interconnected, they will continuously exchange techniques, and their points of views will continuously interact. All the sciences will be guided by a universally wide science—not one that is hypothetical, debatable, and vacillating like philosophy, but a science that is exact and thoroughly *empirical*.

In this regard, this science will be the direct opposite of philosophy, which is much less empirical than all the particular sciences. Philosophy is necessary now because of the rupture of the various fields of experience, but it is not capable of repairing that rupture. And that is why, not having its own special sphere of experience, it cannot simultaneously and directly rely on the living experience of all the separate fields, since they do not make up one whole but are divided by blanks and gaps that sometimes form impassable chasms for specialised thought. The new universal science, by contrast, will have its own basis in experience just as broad as all practice and cognition taken together; it must take note of and coherently systematise all of the methods and means of organisation which are *in fact* employed in society, in life, and in nature. The regularity that will be discovered and confirmed will provide universal guidance for the mastery of any aggregation of forces of nature, of any aggregation of the data of experience.

From the most primitive cosmic combination of elements to artistic creativity—which is by all appearances the highest and, so far, the least understood form of organisational activity—everything will then be elucidated, clarified, and harmoniously interconnected by the conclusions of the formally organised experience of the whole of humanity.

But, the reader asks, is such a science possible? Is it possible to generalise and reduce to a unity what would seem to be heterogeneous—the methods by which nature operates in its spontaneous creation of forms of movement and

life and the methods by which humanity operates in its diverse forms of labour and thought?

In principle the answer is very simple. History sets tasks, and so far humanity has resolved all the tasks that history has set for it. Humanity continually organises for itself the most alien and the most hostile forces of the universe; it will also be able to organise for itself, in the process of its cognition, the same methods of organisation. No one has ever proven that anything has existed—in the world, in experience, or in human activity—that is essentially inaccessible to organising efforts. The only question and doubt is *how much* such effort and *how much* labour energy will be necessary for resolving a task and whether humanity has accumulated *sufficient* energy to be able to bring the task to a successful conclusion. But we will discover this only in practice.

But in addition to this, there is now already a great deal of concrete evidence which argues in favour of the possibility and the necessity of a universal organisational science. We have in mind those cases when nature or humanity, or both, simultaneously apply the same method in the creation of forms and combinations that are completely independent of one another and sometimes belong to quite different realms of being. One can point to facts of this kind that are truly amazing and are unquestionably not chance coincidences.

For example, the higher animals and plants descended from common single-celled ancestors that did not possess sexual difference or reproduce sexually—unless one considers as ‘copulation’ the fusion of a pair of cells that have begun to decompose, after many generations, that were obtained by simple division into two. Sexual difference—this ingenious method of producing new combinations of properties of life—developed independently and in parallel in the two realms of nature. If we compare the organs of sexual reproduction, we find an amazing architectural resemblance of structure in two such vastly different branches of life as the higher mammals and the higher flowering plants. This resemblance is striking to anyone who has studied the anatomy of flowers and even extends to quite a number of details ...¹

The same deep parallelism of structure exists between the seed of a plant and the egg of a bird, for example. In both cases, there is an embryo surrounded by a nutritive layer and then a protective casing; only instead of the animal proteins of the egg, the seed contains plant proteins, and instead of the fat of the yolk, a physiologically similar starchy substance. In addition to this, the

1. In the 1913 edition, this sentence ended ‘which we, however, to avoid a long digression, will not dwell on.’ [Trans.].

distribution of nutritive layers in the seed is approximately the reverse of what is in the egg.

Still more striking is the similarity of the structure of the eye of cephalopod molluscs—octopuses, cuttlefish, etc.—to the eye of the higher vertebrates. The eye is unusually complex; it is an apparatus for organising the visual elements of light and form, consisting of many diverse parts. The common ancestors of molluscs and vertebrates, it goes without saying, did not have eyes and had, at most, pigmented spots for the retention of radiant energy. Nevertheless, the construction of our eyes and the eyes of any octopus are almost identical down to the tiniest detail, except that, once again, the layers of the retina are arranged in reverse order, as if specifically emphasising the historical independence of the production of both apparatuses.

It can also be confidently asserted that the distant common ancestors of humans and ants were not social animals and of course did not possess even an embryonic form of cattle-breeding technology or of slave-owning institutions. Nevertheless, various species of ant have been observed, on the one hand, to breed grass aphids that produce sweet juice in a way that is completely similar to the breeding of dairy cattle by humans and to cultivate edible fungi in a manner similar to agriculture², and, on the other hand, to practice forms of slavery that are highly reminiscent of the military slave-owning system of ancient Sparta. As superficial as our knowledge of the life of social insects might be, these major organisational coincidences have nevertheless been discovered and many others besides.

The lives of human societies that develop independently of each other present an incomparably greater congruence: the same general historical path of development of economic interconnectedness. Thus, the transition from primitive communism to patriarchy and from patriarchy to feudalism took place on different continents without any mutual borrowing of forms.

Finally, let us compare the realm of life with the realm of so-called inorganic or inert nature. Exactly the same model—the rhythm of waves—is endlessly repeated in both realms in the most heterogeneous processes. We find it in the movement of the sea, in the phenomenon of sound, in the radiant energy of light and electricity, and—in astronomy—in the change of relationships of planets to their central sun. But it is also found in the fluctuation of the pulse, the breathing of animals, even in psychical changes of attention. The

2. The passage “and cultivate edible fungi in a manner similar to agriculture” is an addition to the 1923 edition. [Trans.].

same model also governs well-organised work and artistic creativity, such as rhythm in music and poetry, and so on without end. The most dissimilar elements known to us, elements that are incommensurable both quantitatively and qualitatively, group themselves according to one type.

It would be naïve and unscientific to consider all these and countless other similar facts to be chance analogies; the theory of probability would unquestionably not allow this. The only possible conclusion is this:

There exist general methods and natural regularities according to which the most varied elements of the universe are organised into complexes.

This proposition provides the basis for the great new science that will take over from philosophy in order to resolve the tasks that are beyond the power of philosophy. With the help of this new science, humanity will be able systematically and comprehensively to organise its creative powers, its life...³

This same science will for the first time create genuine *universal formulas*. They will not be that absolute universal formula that Laplace dreamed of; they will not be a formula that would embrace the universe in all its complexity but that would itself be as complex as the universe; they will be other, practical formulas that will make possible the systematic mastery of any possible sum of given elements of the world process.

Philosophy is living out its last days. Empiriomonism is already not entirely a philosophy but a transitional form, because it knows where it is going and to what it must give way. The foundation of a universal new science will be laid down in the near future⁴. The blossoming of this science will spring up out of that gigantic, feverish, organisational work which will create a new society and bring the agonising prologue to the history of humanity to its conclusion. That time is not so far off...

3. Pierre-Simon Laplace, (1749—1827), was the first person to give full expression to law-governed, materialist determinism, that is, the idea that the universe is nothing but matter in motion according to fixed laws, and that an intellect vast enough to embrace the positions of all the particles in the universe could produce a formula that could predict the future. Needless to say, Bogdanov shared the outlook of natural determinism, but he treated all human-made theories and formulas as relative and not absolute. [Trans.].

4. This was written in 1911. There now exist the first attempts at the exposition of the bases of organisational science: my works, *Tektologiia*, Vvol. I (1913), Vvol. II (1918), in a new edition, parts I, II, and III in one volume (published by Grzhebin in Berlin in 1922); 'Outlines of Organisational Science', in the journal *Proletarian Culture*, 1919–20, nos. 7–21. There are also independent articles and pamphlets by the author, working in the same direction. [This footnote was added to the 1923 edition –. Trans.].

IN MEMORY OF A. A. BOGDANOV

(Speech at the Civil Funeral Ceremony)

by Nikolai Bukharin, translated by Evgeni V. Pavlov

COMRADES!

A number of us who are present are old Bolsheviks. We came here directly from the Plenum of the Central Committee of our Party in order to say one last “farewell” to A. A. Bogdanov.

During the last years of his life Bogdanov was not a member of our Party. In many issues, too many issues, he was not in agreement with the Party. It is well-known that our Party—a party “as stubborn as stone,” as it was ironically called by the liberal bourgeoisie—does not make compromises of principle and does not permit cowardly and rotten concessions in the sphere of ideology. It is a Party of fighters, fighters of a harsh and beautiful time, and it does not acknowledge relaxation of will and sugary sentimentality. But I did not come here to speak in order to gloss over our disagreements with the deceased, or, abandoning principles, to engage in some trade in ideas by eclectically connecting what is impossible to connect.

I came here, *despite* all of our disagreements, in order to say farewell to a man whose intellectual status cannot be measured by ordinary means. Yes, he was not orthodox in his views. Yes, from our point of view, he was a “heretic.”

But he was no *apprentice* of thought. He was its *most significant artist*. In the brave flights of his intellectual fantasy, in the stern and clear stubbornness of his extraordinarily consistent mind, in the unusual gracefulness and internal elegance of his theoretical constructions, Bogdanov was, despite the non-dialectical nature and abstract schematism of his thinking, undoubtedly one of the most powerful and most original thinkers of our time. He fascinated and enchanted everyone with his passion for theoretical monism, his theoretical attempts to introduce a grand plan into the entire system of human knowledge, his intense search for the universal-scientific, and not the philosopher's, stone, his search for, if we can put it this way, theoretical collectivism.

In the person of Alexander Alexandrovich we have lost a man who in terms of his encyclopedic knowledge occupied a special place not only in the Soviet Union, but was one of the most significant minds of all countries. This is one of the rarest qualities amongst revolutionaries. Bogdanov felt equally at ease in the refined atmosphere of philosophical abstraction and in concrete formulations of the theory of crises. Natural sciences, mathematics and social sciences: he was an *expert* in these fields, he could survive battles in all of these areas, and he felt “at home” in all of these spheres of human knowledge. From the theory of fireball lightning to the analysis of blood to the broadest generalizations of “Tektology”—this was the true scope of Bogdanov's theoretical interests. An economist, a sociologist, a biologist, a mathematician, a philosopher, a doctor, a revolutionary and, finally, an author of the beautiful “Red Star”—in all of these areas he was an absolutely exceptional figure in the history of our social thought. Bogdanov's errors are unlikely ever to be resurrected. But history will undoubtedly search through and find that which is most valuable in Bogdanov's thought; it will allocate to him a worthy place among the fighters for revolution, science and labor. The exceptional strength of his mind, his nobility of spirit, his loyalty to ideas—all these qualities entitle him to the lowering of our banners at his grave.

Our Party cannot but be thankful to Bogdanov for all the years that he spent fighting, hand in hand, alongside Lenin—on the frontlines of the Bolshevik faction, this embryo of the great Party of Communism. He experienced with this Party, and as one of its leaders, an entire historical period, the period of the first attacks of the proletariat; these first heroic bloody battles received artistic representation in the last pages of “Red Star,” pages that our revolutionary youth read with awe and excitement. He greatly influenced an entire generation of Russian Social Democrats, and it was because of him that

many comrades made their decision to become revolutionaries.

Bogdanov was one of those people who, owing to the special qualities of their character, fight heroically for a great idea. Bogdanov had it in his blood; he was a collectivist in feeling and in mind simultaneously. Even his ideas about the transfusion of blood were based on the necessity for a peculiar physiological collectivism in which separate individuals are connected into one physiological circuit thus increasing the life activity of both individuals and of the entire collective. When Alexander Alexandrovich was still a political fighter, his Bolshevik theory did not contradict his practice, and he was one of the most significant revolutionary organizers, underground operatives and leaders of the Party. The events that shook the world drew a deep tragic line between him and the Party and condemned him to political passivity. Undoubtedly, the most significant deviation—more significant than the political differences of the “Vpered!” era—resided in the theoretical errors of Alexander Alexandrovich: one may compare his ideas about culture and the necessity of preliminary cultural maturation of the proletariat with his political attitude toward the October Revolution in order to understand the deep and intimate link between the two, and one may connect this line of thinking with the very origins of Bogdanov’s worldview, but this is not my task right now. The fact remains: Bogdanov withdrew from the Party and ceased to exist as a politician.

But with the same passion and the same “physical strength of the mind” he fully immersed himself in scientific activity. And even here he was fighting like a “fanatic” for his ideas. The word—“fanatic”—is a frightening word only for the philistines. For us, “fanatic” is anyone who tenaciously and seriously pursues the best and most beautiful goal that one sets for oneself. Bogdanov died a genuinely *beautiful death*. He died in battle, fighting for the cause in which he believed and for which he worked.

The tragic and beautiful death of Alexander Alexandrovich may be used by his enemies in order to discredit his selfless experiments, to strangle and finish off the very idea of blood transfusion, to put a headstone on the *cause* for which this martyr of science died. This must not be allowed! We cannot let some idiots of small caliber, some scientific petty bourgeois cowardly both in theory and in life, some folks of the old ways who would be incapable of inventing even a wheel, to use Bogdanov’s death in order to kill and annihilate the significance of his scientific sacrifice. No important, really important and really new, task comes without risks for the pioneers and

trailblazers. In the realm of class struggle, in the realm of labor, in the realm of science, people—the very best, the most selfless and bravest people whose ideas and passions burn with bright flame—often perish in order to achieve the desired goal of their lives, their own individual “task,” the task that is a part of the objective social force that pushes them forward and onward. For philistines this is “madness.” But this “madness” is the highest peak of human hearts and minds. Bogdanov died while performing his duty. And the very death of *comrade* Bogdanov is the beautiful sacrifice of the man who knowingly risked his individual life in order to give a mighty impetus to the development of the entire human collective.

From the group of comrades and from Nadezhda Konstantinovna Krupskaya I say here our final “farewell.”

ON PLATONOV AND THE ANTHROPOCENE

by McKenzie Wark

“REVOLUTIONS are the locomotive history,” according to Marx in the ‘Class Struggles in France.’ Andrey Platonov, who knew and loved steam engines, was rather more literal minded about it. For him, locomotives were the locomotive of history, even if that meant the clapped-out goods-wagons trundling around the infant Soviet Union during the civil war.

Platonov was that rare thing, a proletarian writer who composed modernist literature of the first order. He was mobilized during the civil war, he had a regional career in journalism. But the famine he observed made him quit writing to retrain as a hydrologist and engineer. When he returned to writing in the mid twenties, his work is marked by a rare practical sense of what was involved, and what could go wrong, in trying to build a new mode of production from the ground up.

From the late twenties on, he composed a series of masterpieces that read like a counter-history of the Soviet Union, written from a point of view that is not so much history from below as from below the below. His central characters are usually orphans who have even less than proletarians.

None of his major works were published in his life time. We are fortunate

that New York Review Books Classics have put out a series of magnificent translations by Robert Chandler and his collaborators, including *Foundation Pit*, about Stalin's forced collectivisation of agriculture; *Happy Moscow*, about the high Stalinist culture of the capital in the late 30s, and *Soul*, which travels to the far west to look at Soviet power from the periphery.

Unfortunately, the book many would consider his masterpiece, *Cheven-gur*, is out of print. A older translation can be found here. Chandler and his colleagues have released some fragments of a new translation. Here below is a remarkable section in which the locomotive figures, perhaps as an allegory for the failure of the infrastructure of the infant Soviet state to live up to the airy language emanating from its superstructures.

In *Molecular Red*, I devote a section to working through Platonov's history from below the below of the Soviet experiment in creating a new mode of production. It seems fairly clear that the current one within which we live can't last. The Anthropocene is a catalog of the reasons why the ever-expanding commodification of everything is on a collision course with planetary limits. And so I turned to Platonov, not just as a writer, but also as a theorist, who thought long and hard, and based on direct experience, about what it means to build a civilization from nothing.

I want to read Platonov here as having an intuition of what the Anthropocene future is going to be like. He had ample first-hand experience of labor's struggles in and against nature, of trying to get things to work, of the recalcitrance and poverty of the material world. Many of his best fictional writings touch on this. Here is a short text from his notebooks circa 1935 where he mediates on this theme. It appeared in New Left Review No. 69 May-June 2011, but I decided to jailbreak it from out the paywall and share it here. It plays a key role in my reading of Platonov in *Molecular Red*.

ON THE FIRST SOCIALIST TRAGEDY

by Andrey Platonov, translated by Tony Wood

ONE should keep one's head down and not revel in life: our time is better and more serious than blissful enjoyment. Anyone who revels in it will certainly be caught and perish, like a mouse that has crawled into a mousetrap to 'revel in' a piece of lard on the bait pedal. Around us there is a lot of lard, but every piece is bait. One should stand with the ordinary people in their patient socialist work, and that's all.

This mood and consciousness correspond to the way nature is constructed. Nature is not great, it is not abundant. Or it is so harshly arranged that it has never bestowed its abundance and greatness on anyone. This is a good thing, otherwise—in historical time—all of nature would have been plundered, wasted, eaten up, people would have revelled in it down to its very bones; there would always have been appetite enough. If the physical world had not had its one law—in fact, the basic law: that of the dialectic—people would have been able to destroy the world completely in a few short centuries. More: even without people, nature would have destroyed itself into pieces of its own accord. The dialectic is probably an expression of miserliness, of the daunting harshness of nature's construction, and it is only thanks to this

that the historical development of humankind became possible. Otherwise everything on earth would long since have ended, as when a child plays with sweets that have melted in his hands before he has even had time to eat them.

Where does the truth of our contemporary historical picture lie? Of course, it is a tragic picture, because the real historical work is being done not on the whole earth, but in a small part of it, with enormous overloading.

The truth, in my view, lies in the fact that 'technology . . . decides everything'. Technology is, indeed, the subject of the contemporary historical tragedy, if by technology we understand not only the complex of man-made instruments of production, but also the organization of society, solidly founded on the technology of production, and even ideology. Ideology, incidentally, is located not in the superstructure, not 'on high', but within, in the middle of society's sense of itself. To be precise, one needs to include in technology the technician himself—the person—so that one does not obtain an iron-hard understanding of the question.

The situation between technology and nature is a tragic one. The aim of technology is: 'give me a place to stand and I will move the world'. But the construction of nature is such that it does not like to be beaten: one can move the world by taking up the lever with the required moment, but one must lose so much along the way and while the long lever is turning that, in practice, the victory is useless. This is an elementary episode of dialectics. Let us take a contemporary fact: the splitting of the atom. The same thing. The worldwide moment will arrive when, having expended a quantity of energy n on the destruction of the atom, we will obtain $n + 1$ as a result, and will be so happy with this wretched addition, because this absolute gain was obtained as a result of a seemingly artificial alteration of the very principle of nature; that is, the dialectic. Nature keeps itself to itself, it can only function by exchanging like for like, or even with something added in its favour; but technology strains to have it the other way around. The external world is protected from us by the dialectic. Therefore, though it seems like a paradox: the dialectic of nature is the greatest resistance to technology and the enemy of humankind. Technology is intended for and works towards the overturning or softening of the dialectic. So far it has only modestly succeeded, and so the world still cannot be kind to us.

At the same time, the dialectic alone is our sole instructor and resource against an early, senseless demise in childish enjoyment. Just as it was the force that created all technology.

In sociology, in love, in the depths of man the dialectic functions just as invariably. A man who had a ten-year-old son left him with the boy's mother, and married a beauty. The child began to miss his father, and patiently, clumsily hanged himself. A gram of enjoyment at one end was counterbalanced by a tonne of grave soil at the other. The father removed the rope from the child's neck and soon followed in his wake, into the grave. He wanted to revel in the innocent beauty, he wanted to bear his love not as a duty shared with one woman, but as a pleasure. Do not revel—or die.

Some naive people might object: the present crisis of production refutes such a point of view. Nothing refutes it. Imagine the highly complex armature of society in contemporary imperialism and fascism, giving off starvation and destruction for mankind in those parts, and it becomes clear at what cost the increase in productive forces was attained. Self-destruction in fascism and war between states are both losses of high-level production and vengeance for it. The tragic knot is cut without being resolved. The result is not even a tragedy in a classical sense. A world without the ussr would undoubtedly destroy itself of its own accord within the course of the next century.

The tragedy of man, armed with machinery and a heart, and with the dialectic of nature, must be resolved in our country by means of socialism. But it must be understood that this is a very serious task. The ancient life on the 'surface' of nature could still obtain what it needed from the waste and excretions of elemental forces and substances. But we are making our way inside the world, and in response it is pressing down upon us with equivalent force.

UNCREATIVE WRITING AND THE NETWORKED BOOK

by McKenzie Wark

ANDREI Platonov is well known to contemporary readers of Russian, but has not yet found his place among an international readership as one of the great writers of the twentieth century. His deeply strange but unrepentant Marxism kept him from being assimilated to the canon of ‘dissident’ authors. He was that rarest of things: a proletarian writer who is modernist in style.

Unfortunately, the English translation of his major work, *Chevengur*, has long been out of print, although a pdf of it is readily available. Most of his novella-length works and some of his classic stories have been carefully translated by Robert Chandler and various collaborators, and are available in excellent editions from New York Review Books Classics.

In ‘*Factory of Literature*’, (1926) Platonov writes about the method of composition he first used in the story ‘*Antisexus*’, (1925-26) and probably used in the composition of his later masterpieces.

‘*Factory of Literature*’ proposes a method of what Kenneth Goldsmith calls ‘uncreative writing’, and which one might recognize as a distinctive version of what the Situationists called *détournement*, or a kind of plagiarism-and-correction process.

Platonov goes on to envisage a whole production process for a new kind of literature, collaboratively produced from the bottom up. It is among other things an intimation of what Bob Stein calls the networked book.

It is also a sort of dialectical inversion of what would become the Soviet literary industry of socialist realism, where all stories are cut to fit the template of a communist horizon, determined from above by state literary administrators. 'Factory of Literature' shares an interest in productivist culture that was common at the time, although Platonov's idiosyncratic version takes its distance not only from nascent socialist realism, and from the commodified culture industry satirized in 'Antisexus,' but also from certain features of the Soviet avant garde.

FACTORY OF LITERATURE

by Andrey Platonov, translated by Anna Kalashyan

On fundamental improvement of literary creativity methods

ART is organically an essential part of life, just like sweating is part of a human body and motion is part of wind. However, in passing within the subsoil of a body, in geological layers in areas with narrow coverage of human collective structures, art is not always visible and publicly accessible. It is about making it visible and bringing it out of the geological layers onto the surface of everyday life.

They say—write stronger on a big canvas, show the essence of construction in the new era, illustrate the transformation of everyday life and present the new type of human with new spiritual and emancipatory equipment, etc. The writer gets overwhelmed but the amount of cognitive elements remains the same. He sees the rationale behind this smart advice and it's justice, and acknowledges the practicability of these plans and projects, however he lacks the bricks to build this novel.

Real literati travel to provincial communities in the Urals and Donbass, to irrigation works in Turkmenistan, to state farms, to hydroelectric stations and finally, just become activists in communities (in order to understand the

everyday life, the elements and problems of apartment buildings, etc).

Writers open up their soul—in comes the life elements and the warmth of this era—and this becomes the architecture of literature, the truth of new characters and the signals of the weight of the new great class.

As a foreigner, this person walks around the factory and observes the electric junction boxes, gets terrified of these ordinary things and then writes extensively, with exaggeration and lies, being concerned about the pieces of life observed and realizing the potential existence of a big Korovai bread of much nourishment. It becomes a travelogue rather than creative writing. It turns out to be a subjective philosophy about, rather than an essay on, what is real and alive in the landscape of the unavoidable destiny of that ‘alive.’ In order to whip the ‘alive’ and possess it not inside yourself but rather in front of you.

Modern literary work divides into two types: dialectics of the author’s soul in a social setting (Babel and Seifullina); or honest social novel (dialectics of events)—genuine effort of a kid to construct a bus by himself, etc. And does such a good job so that people admire his bus.

Leyland—life, a baby with iron—writer. Whereas we need in literature dialectics of social events that sounds like the contradiction of the living soul of the author.

Take a look at where the electronics of aviation, chemistry, astrophysics is today. People are basically the same as ten years ago but they make things better than their ancestors.

Where is literature in terms of quality in comparison with Shakespeare? Obviously now they write about mechanics rather than sons of kings, but this is a quantitative element rather than qualitative. Shakespeare would write in a positive manner about mechanics if he lived now.

Literature didn’t really go anywhere: the writer sits down and writes just with himself and his internal feelings. All the disciplines of knowledge know how to use the increasing amount of objective facts—their experience and others needs—and know how to reform subjective methods of activity. Meanwhile, the writers don’t know how to do these things, as if they are still primordial beings. They still make cars by themselves forgetting that there is Ford and Citroën.

Here no one likes Spengler but he was right when he said that in comparing the knowledge and intellect circulating in the world of manufacturers with circles of writers—the comparison is not in favor of latter. You cannot hide

from this. Talk to an engineer, a big constructor or manager and then talk to a famous poet. While the engineer exhorts a healthy mind and the fresh wind of concrete life, the poet smells like the hospital or the psycho's mouth.

We need to create a literary method that is equivalent to modernity, taking into account the experience of it. It is absolutely necessary that methods of creativity with words keep up with the pace of the revolution, if they cannot develop with the same speed as humans.

Writers bet on the talent of people without doing anything to actually develop new methods for their work. We live now in an era where we don't respond to anything. The good news is that there is manufacturing and it's inertia.

Today's mechanics are using new methods—improved machines (that didn't even exist a hundred years ago) make quality better and quantity ten times more while his grandfather didn't even have one. While this mechanic is from the same era as us and has the same talent as us, he could have been more cheap and unskilled than his grandfather. But it's all about the machine that the grandson possesses now.

If this development took place in literature as well the modern writer would write better and write more than Shakespeare even if one had just 1% of Shakespeare's talent.

We need to create not just novels but also methods for creation. Writing novels is the writers' job, whereas the critics' job and main mission is to develop new methods for writing that simplify and improve the writers work. Until now critics were busy observing their own shadows and assuming that it looks like a human shadow. It can either be the case or not, but in any case, given the fact that it is the shadow it cannot be equal to critics.

Critics need to become constructors of 'machines' that produce literature, and the artist will work on the machines.

There was Furmanov and Reisner and they correctly identified what needs to be there: living, fighting and traveling, they gained the gifts of life and they used it to give back to literature as if adjusting these natural gifts to their individual souls, without which a real art cannot exist. Therefore, art becomes a reality in the process of being enriched by the artists' individuality. Furmanov was a military party official and Reisner was a revolutionary and traveler and then they became writers.

Chekov had a notepad, Pushkin worked in archives, Anatole France advocated the scissors instead of a pen, Shakespeare was broadly relying on the

memoirs of his circle of aristocrats.

I would like to clarify that I am not supportive of life protocols. I am advocating for the smell of the authors' soul in his writings and simultaneously for the real faces of people and groups in the same work.

The author's soul should be united with the soul of collectivity, since without it an artist cannot possibly exist. But literature is a social phenomenon and therefore it needs to be developed by social collective force only under the leadership and editing drive of one person—the writer. The latter of course has a lot of rights and opportunities but he needs to construct the novel based on the social elements. That's indeed the case, since words are social elements just like events and chapters, as well as motion patterns.

Words are just social materials and they are very manageable and reversible.

However, why would you even use these resources when you can have ready-made ingredients? From processed ingredients to the actual product is an easier path than from raw ingredients, since you wouldn't have to spend as much effort, and there are savings on quantity, which can become a quality issue.

The modern writer usually relies on social resources rather than ready-made components.

What exactly are ready-made ingredients?

Myths, historical and modern facts and events, everyday activities and an ambitious or better destiny—all of these which are proclaimed by thousands of mouths and hundreds of dry and anonymous official papers will be ready-made components for writers, since all of these are made unintentionally, genuinely, for free and by chance and you cannot write better than that: this is a 100% equivalent of life that is enriched by a virgin soul. You can also consider as ready-made components the personal stories of authors, as long as these are real and genuine pure facts. Art is not just out there and objective but rather is the sum of social objective events plus the human soul. (Soul is an individual violation of a general trends of reality that is unique as an act and for that matter the soul is alive. I apologize for the old terminology—I developed a new meaning to it).

Soul is always existent and in sufficient amount and quality. Meanwhile our literature is still not benign, therefore the lack of external and social material is the second part of ready-made components. However objectively speaking this material exists in huge amounts so why is it not subjectively

enough for the writer? Because methods for identifying and understanding the social material are absent. The social material can only be literary ready-made components since the people's fresh lips rarely formulate concepts and rather provide an image for its development, since people are alive.

I am going to turn to specific examples now. I bought a leather notepad and divided it into seven sections with the following headings:

1. Work
2. Love
3. Everyday Life
4. Personality traits
5. Discussion with oneself
6. Unexpected thoughts and findings and
7. Random and special.

I chose very general headings to just direct myself. I include into this journal everything that I find interesting and everything that can be a ready-made component for literary work, including excerpts from newspapers, separate phrases from the same source, pieces from different popular and not popular books, real dialogues from different sources, and I write my own ideas, themes and pieces. I am trying to live my life in a way that I notice everything that is valuable for the notepad.

The notepad is being filled by a variety of different life things. Of course we need a sharp eye and delicate taste, otherwise you will just end up filling the notepad with bullshit instead of actual bread. I flip through the notepad in the evenings and I focus on one specific note and I start working on that theme, also taking into account the next notes and sketches. I focus on dialogues, description of streets and other miracles that I slightly alter, depending on my goals and my capacity to connect these pieces by personal cement. You end up with an essay where your contribution is only 5-10% but it's all about my edits and ambitions.

Editing is what brings us closer to the author since it is a very intimate spiritual individual corrector, that illustrates the presence of a real and passionate hand and personal passion, as well as the ambition and goal of a real person.

Borrowed from people, I give it back to them having thought it through. You have to start writing, not by using words and copying real languages

but rather with pieces of that real language then editing these pieces and putting it together in an essay.

The result is, or is supposed to be, truly fascinating because thousands of people worked on it and contributed their individual and collective reviews of the world.

Now you don't have to remember, accidentally find and lose, the ready made components all the time. All you need to do is just take advantage of life itself. And this will go back to people in a more profound and nutritious way.

I am not advocating but rather informing. I have an experience and I am illustrating. I was comparing this to my previous method and got terrified. Now I write, play and I am happy, but in the past I would suffer and get upset. Now my ideas are exciting and in line with feelings.

People can say: wow he discovered South America. But this is what every smart artist is supposed to do, just like every citizen. But this isn't what usually happens and authors disregard this method most times.

This isn't easy and not easy at all.

You need to always mobilize your observation skills, your taste and vision need to extrude just like a predator's and you need to always dig in central squares and other neighborhoods to find something. You need to know just like an experienced gleaner where you can find what and where you will just waste your time.

Maybe this isn't something that a writer is supposed to do? I don't know. But it's really interesting and easy. You need to always leave your mind and soul open and the fresh wind of life goes through it and your role is to stop it every once in a while, in order for the wind to leave some footprints in you.

And then at night when women and children are asleep, you start editing and cutting depending on what you like. It's easier for you to write this way and you are smiling to all the thoughts and ideas from the notepad. You write all kinds of things and improve.

Your friends will ask you where this is coming from. You smirk and I say that it comes from people themselves. A lot of writers do a better job in telling the story than writing it. I decided to experiment once and included my friend's speech into my essay. He read it and got excited but didn't remember since I edited it a bit. He still doesn't get it that work that actually produces big results just requires manual dexterity.

I admit I wrote only one essay using this method and it's called *Antisexus*. I started the notepad just recently so I can't really confirm the new method

and I can't illustrate anything at this point other than what I just did. But you know I am speaking the truth.

The manufacturing of literary works and essays should be done in a modern way, namely, rational with guaranteed quality.

I envision this type of literature factory in the following way.

In the middle of this factory is the editorial team—these are the literary editors, the writer himself who is working on a piece. This team is headed by a critic or a team of critics that are supposed to improve and develop new methods of literary work, just like the head of a big car industry is a construction team.

This department is always analyzing processes of production and categorizing the experience and studying the writer's era to try to improve the quality and simplify the production process.

The factory is the place where literature is made. Other factories are in the country, in the body of life and their contribution needs to be spelled out.

I would do the following thing in the Soviet Union. We have got an all-Union literary journal. In every national republic or area and every territorial unit there is a network of writers and each one of them focuses on one specific theme.

In every national republic or area there must be at least seven literary factories. Maybe the story can be divided into sections and each factory works on one section. So these literary factories are primary workshops where ready-made ingredients are processed. And then this material gets delivered to national literary factories that are the most experienced ones, where actual writers work.

These units need to be very good observers since they need to identify and assess the material that is out there in the world.

However, it is not required that the literary factory have excellent editing skills—that unique capacity to add something to the ready-made ingredients and make an essay out of it.

The national literary factories need to have all the qualities listed above plus education. The material that is received from this unit gets sorted into different notepads, getting it cleaned of unoriginal thoughts and ideas that are not valuable for literature. However the rights of these units need to be restricted in that area so that they don't lose important material.

The central literary factory needs to take it slowly or just drop the whole thing or just leave it, not even changing punctuation. Given the suggestions

from the literary factory, the central literary factory needs to just leave the material. The national literary factory needs to know really well it's audience and the people, as well as the literature, and needs to provide suggestions and support to other literary factories.

The national literary factory is a laboratory that controls the quality. They don't need to add their own input to these pieces. For their own ideas there is another space called 'accidental thoughts.'

The material that gets collected by the national literary factory are sent out to the editing department for creative production. Therefore you have got the following:

The experts are by the machines (literary factories)
 The factory experts (national literary factories)
 Editors (writers, and collectors of materials)
 Directors—engineers (critics).

You can also have these units in different regions but these can be less useful for writers since it's more diverse and the interests of literature are not in line with the interested of economics.

Honorarium should be the following:

50%—the writer
 5%—critic
 5%—national literary factories
 40%—literary factories, for each piece published by this unit. The pieces are published under the writer's name and with the insignia of the literary factory.

There are going to say that this is too hierarchical and bureaucratic. It is not true. This isn't hierarchy but rather division of labor. This isn't bureaucracy but rather a real creative volunteer factory for processing these materials.

There shouldn't be any hurt feelings: all the staff members of literary factories are interested in this financially and morally. Every literary factory can potentially become an expert based on their capacity and energy.

At the moment I work just by myself so I doubt I will achieve the impressive results that would illustrate the advantages of this method.

The most important benefit of the factory is of course the division of la-

bor and the fact that it covers lots of human lives, masses and territories, thousands of eyes.

In any case I will give it a try and illustrate the results of the publishing units.

I would love this experiment to be on a bigger scale that is more applicable to our era.

However we need a lot of qualified people for that.

Maybe then we will get closer to reforming literature (content, style and quality) and this will facilitate the process of collectivization of this field and will eliminate archaic methods of literary work and that will at least bring us closer to a bad factory that produces cars and weaponry.

I would like to kindly ask to write about this and provide feedback on the content rather than finding fault.

'Factory of Literature' is translated Anna Kalashyan from *Oktyabr*, No. 10, 1991, pp 195-202. Initially, the piece was supposed to be published by *Oktyabr* in 1926 but it was returned to the writer, and he ended up publishing it in the journal of Peasant Youth.

THE SEX-GENDER INDUSTRIAL COMPLEX

by McKenzie Wark

ANDREI Platonov is without question one of the great twentieth century writers. He is a rare witness to the early history of the Soviet Union, and at the same time the creator of a unique modern prose style. Unfortunately, the English translation of his major work, *Chevengur*, has long been out of print, although a pdf of it is readily available. Most of his novella-length works and some of his stories have been carefully translated by Robert Chandler and various collaborators, and are available in excellent editions from New York Review Books Classics.

Here we offer a provisional translation by Anna Kalashyan of an occasional piece by Platonov. In ‘Antisexus’ (1925-26, Platonov writes in a parodic vein about what Béatriz Préciado calls the sex-gender industrial complex. The production of gendered and sexualized bodies via technologies of the image and the orgasm appears here as something that might be implicated in both the western and Soviet modes of spectacle.

ANTISEXUS

by Andrey Platonov, translated by Anna Kalashyan

BELOW you will find the text of an advertisement brochure published in New York, in eight European languages, by *International Industrial Review*.

We cannot overlook the exceptional literary talent of the author of this brochure, just as we have to acknowledge the imperial cynicism, serviceable pornography, and terrible banality of this business essay, the size of which makes it really sad. However, there is something in the same line of thinking as this brochure that makes it similar in nature with the work of Anatole France, granted we are allowed to talk about his great and honorary name. In fact, this is what gave us the courage to publish this outrageous work.

The work below is the best document to represent the elements of this era of degradation and stagnation of the bourgeoisie and its moral degeneration.

Even the most professional readers like us have never read anything like this.

Expecting everything from the modern day substrate of capitalism, bureaucracy, fascism, and militarism that furnished reviews for the advertised device, we were still not anticipating such complete stupidity and absence of common sense.

Of course, comrade Shklovsky, who ironically analyzed this bullshit us-

ing formal methods, is excluded from this rule.

Apparently physiology (“the brain decomposes last out of all organs”) is wrong and the Russian Bolshevik saying is right: the person who wants to punish History loses reason first.

That is the case. For that matter, the whole Earth stinks from this Anglo-Euro-American illustrative piece, which comes from the sector of imperialism.

Therefore, the best counter anti-sexual agitation is to publish this interesting piece, since this will change people’s facial expression and make them laugh, which is the best friend of our stomach and soul and, at the same time, the worse enemy to this industrial moral physiological madness.

LADIES and gentlemen,

While our international firm works in different parts of the world different cultural environments, and different time zones, the demand for our patented products exists everywhere from the Arctic to the Antarctic, not excluding the savage countries between the tropics of Cancer and Capricorn.

Human passions dominate time, space, climate and economics. Our company’s efforts to disseminate metal industrial products for the satisfaction of those passions is of cosmic importance both in terms of metaphysics and morals.

It is truly fascinating that, despite the widely varying cultures, the chart illustrating the annual sales of our product in the north is not different from the south, given equal economic conditions and population.

Given this fact, let me conclude that human physiology is almost absolutely the same across borders and across space, race and culture, the existence of a publishing industry or it’s absence, etc.

Thus, the existence of satisfaction depends on the existence of demand. The world itself aims to consume rather than produce. The world does not produce the want for pleasure when there is no opportunity to meet it.

Given our international sales experience, our efforts to improve the features of our devices as well as to expand the reach of our factories, and attempts to ensure that our products are compatible with the individual needs of our consumers, we decided to include the Soviet Union in our export mar-

ket. The size of this market is big enough for us to justify the organizational expenses that are related to the cost of adoption of our devices to the needs of locals, which will guarantee our commercial success in this market.

The most distinguished moral authorities acknowledged our work without any doubts. In fact, it is considered worthy of state recognition and private philanthropic support. Our firm did not hesitate to take advantage of this support.

The CEO of the firm, Mr. Berkman, is already included in the list of candidates for the Nobel Prize, and last year he received the honoris causa doctoral degree in Ethics and Aesthetic Sciences from the Academy of Paris.

Without further ado, let me share with you in a nutshell the principles embedded in our company's international activities.

The sexual destiny of humanity was constrained during the war, and in the postwar period it developed uncontrollably. This has contributed to our firm's financial prosperity.

Human sexual life is impossible to regulate and this can have disastrous consequences. This is an issue of high concern for the founders of our firm and the actual reason for us to act upon it.

It is also widely known that there is a correlation between sexuality and morality. The virtue of the ancient institution of marriage is widely acknowledged, as it conditions the spouses to specific rules regarding marital love that is considered to be the highest positive pleasure and spiritual appeasement. In marriage, truth is replaced by comfort. In any case, no other philosopher can prove otherwise. Humanity accepted comfort and peace as the supreme truth. The object of commercial and industrial activity is humans rather than philosophers.

Therefore, our firm announced a patent in all civilized countries for an electromagnetic device called *Antisexus* that is designed to regulate the field of sexuality and to bring out the highest function of humans, namely, their spirit, that needs to be made more visible and widely used as one of the most important goods of civilization.

Unregulated sexuality is unregulated soul or disorganized soul, and it spreads misery and suffering that is not acceptable in the age of the general scientific division of labor, in this age of Ford and radio, in this age of the League of Nations, etc.

Progress follows a crooked path, meaning some parts are still behind. Our firm aims to equalize the path of progress, destroy the sexual wildness

of humans, and bring them to the culture of peace and calm with a planned development rate.

In the age of social and economic crisis when marriage is under material strain, in the age of alimony when giving birth is almost impossible and when women become the muses of poets again because of men's poverty, our mission is to solve the international problem of sexuality.

Our firm turned sexual feelings into an honorable mechanism and gave the world a moral behavior. We eliminated the element of sexuality from human relationships and made more room for spiritual friendship.

Taking into account, however, the value of pleasure that is part of the relationship between sexes, we made sure that our device makes it possible to achieve it even by a convict who just came from serving a ten year prison sentence. This tells you a lot about the quality of our devices.

Moreover, special features make it possible to achieve pleasure of any longitude, ranging from a couple of second to a number of days, if the consumer has the free time. Another feature makes it possible to regulate the amount of sperm in order to achieve spiritual balance and avoid an unnecessary exhaustion of the body.

Our slogan is spiritual and physiological destiny for our customers and we put the sexual satisfaction in his hands through the regulator. We have achieved it.

Furthermore, senior citizens who have lost sexual desires get back these feelings with our device. We work for all ages and all nations.

In the last eight years we have produced only three types of our devices for men and three for women. The market apparently doesn't need a big diversity here due to the fact that each version of the device provides different features.

Meeting the needs of our new customers—the inhabitants of Soviet countries—we decided to provide more benefits such as the members of unions get: a discount of 20% and credit until 1 year. The price range for our devices for 1926 are the following:

1. Type BS 00042 for individual usage without sterilization \$20
2. Type BS 001843 for a limited group of people (for men of the family) with sterilization \$40
3. Type BS 000000401 for unlimited number of people (for public toilets, theaters, streets, organizations, etc) with sterilization is \$100.

The prices are listed without the discount. For women, we offer the same types but 15 % more expensive.

Let me emphasize again the moral value of our activities. We are defending your economic interest by protecting it from uncontrollable sexual desires and providing the means to get rid of this budget line and become financially successful.

We look forward to your orders.

General agent for Soviet countries,

Jacob Habsburg

FAMOUS

people's reviews on the *Antisexus* device:

HINDENBURG

War is humanity's passion. It cannot exist until life exists on earth, despite what tired and politician-dreamers say. War—courage that will exist until life is courageous.

The devices offered by Berkman, Shotlua & Sons will have a great role in the next war when thousands of young people will be satisfied by it.

During previous wars, the nervousness of the military was a big challenge for commanders. Nervousness leads to defeat. We need an army of people with tough nerves. We need an army of people who have found their spiritual balance and are ready for decades of war.

The above mentioned device can help commanders in their difficult task of victory.

HENRY FORD

Mr. Berkman, Shotlua & Sons have started a new era in the moral service to humanity. There is no doubt that the historical optimum is about the regulation of the universe by human reason—regulation that is a transformer which turns chaos into a regulated machine.

When I was twenty-five and just got married, the task of regulating the

marriage physiology with formulas was already on my agenda but my mind got distracted with mechanics.

Maybe I would have stopped working on the automation of car production and focused on the production of these devices that normalize morality, which is closer to my spiritual nature.

But Mr. Berkmanan, Shotlua & Sons have guessed my thoughts and implemented them for the benefit of the society. I am very glad about it.

I wish this new production, that is so well organized, international prosperity, sales of the products of this unique firm, and dissemination among all animals of the planet, and not just humans. This will reinforce an active balance of the firm, which will in turn reinforce morality in the world.

SON OF FORD

Analyzing the net cost of *Antisexus* devices, we concluded that it is way too expensive. I asked the financial department to recalculate the price, given our resources and instruments and decide whether it is possible to bring the price down. I was told that it is possible to make the device cheaper by 30%. Starting from next year, we will start its production in our factories in Detroit.

Moreover, we will make it possible to extend the payment plan to five years.

This will eliminate prostitution and all the unemployed will have access to these devices.

Regarding the young employees, we are providing the opportunity not to think about marriage, to stabilize their budget, which will make it possible for us not to raise their wages, which is what really prevents technical improvement of our factories and further progress.

GHANDI

It is better to let the sperm go down the metal, rather than use the vulnerable body of a human that is created for friendship, thoughts and holiness, unless you intend to transform it into a tree of wisdom.

CHAMBERLAIN

Devices developed by Mr. Berkman, Shotlou & Sons make it easier to

govern the passionate races of the colonies and decrease the number of unnecessary revolts, rooted in the unsatisfied sexual feelings of young people, that are directed against civilization. This also simplifies the work of colonial administrators since their wives don't have to deal with rape anymore. Administrators' wives who have the device will not be subjected to rape.

CHARLIE CHAPLIN

I am against *Antisexus*. It does not take into account an intimacy, a live communication of human souls—communication, which is always at stake in the sexual relation, even if a woman is a commodity. This communication has its own value, independently of sexual intercourse; it is that immediate sentiment of friendship and tender sympathy, a sentiment of felt solitude, which cannot be achieved through an anti-sexual device. I remain in favor of human closeness, for breath passing mouth to mouth, for a pair of eyes gazing at another pair, for the sensation of the soul in a most brutal sexual intercourse, for its enrichment at the expense of other soul that it encounters. That is why I am against *Antisexus*. I stand for the living, suffering, ridiculous, deadlocked human being, which dissipates its poor vital forces in order to buy a moment of fraternity with some other secondary creature. And for that matter I am against all this mechanization. I will always stand by the concrete, sad, funny but real—something that promises to be powerful.

THE FIRM'S COMMENTS

Taking into account Chaplin's objections, and not shying from publishing negative reviews, the firm would like to let the public know that our best engineers are already working on an updated *Antisexus* that goes beyond its rational construction and works not only on sexual organs but also on the nervous system, in order to ensure that all the precious feelings described by Chaplin become a reality.

The firm assumes that it will be possible to reproduce this feeling of belonging to the new universe with a pleasant image of a man or a woman, depending on the sex of the consumer—the image that is most desired by the nervous and psychological system.

However, the firm doesn't anticipate wide dissemination of this device since it is known that love is not something common for people, and this

won't be commercially promoted. Modern science has confirmed that love is a physiological stage that happens to humans that are not healthy. But we work not just for all ages and countries but also for all human structures with all their diversity, since the firm's goal is the moral stability of the world.

PROFESSOR SHTEINAKH

Having made the sexual act just about one human being, and making pleasure accessible for all—we are on the path for virtue, for the dominance of youth.

MORGAN

Using *Antisexus* you feel youthful and then you sleep well. I haven't slept so well in the last twenty-five years. My body reproduced the source of youth. I am very grateful to the producers of *Antisexus*. My daughter suggested I found an Institute of Permanent Youth. I agreed with it and donated money for that cause.

DOUG FAIRBANKS

With the development of anti-sexual devices we lost the famous and beautiful set of motions that make passion happen. That's a pity.

But we have gained sexual comfort, a balance of health and independence from women's caprices. In addition, this also saves time. This is to be admired. Moreover, the modern film industry will compensate for the lost sexual motions and replace it with a virginal and mighty body.

OSWALD SPENGLER

The future belongs to civilizations and not to culture. The future will conquer the spiritually dead and intellectually pessimistic man. In the landscape of genuine civilization marriage is impossible since it's only about mechanical emancipation from organic powers.

The *Antisexus* machine has again symbolized that era that we are entering now—civilization—is a dead, comfortable building, the foundation of which faces the green foliage of living and dead cultures.

SVEN HEDIN

The *Antisexus* machine is absolutely necessary for long trips and very convenient. These machines are now very much needed and included in the list of equipment for each expedition.

The presence of the machine is a plus for the success of the expedition.

KLAINS

When I was in Russia, I heard this song:

The person who lives with a milkmaid is very lucky. As soon as he leaves the house he gets the sour cream and yogurt.

In the times when Europe is getting poorer and Russia is yet not that rich and when not everyone has a wife that can provide milk we need a mechanical milk provider. That's what the mechanism of *Antisexus* is here for. Annually humanity spends about 500 billion rubles on prostitution and this is not taking into account indirect health expenses, the waste of time and existence of an evil international class of prostitutes.

This funding can be used for other purposes such as milk, yogurt and sour cream for everyone.

Yes, this savings wouldn't be possible without *Antisexus*. Therefore, it is more real than any other revolutionary economic reform.

MUSSOLINI

I usually act rather than write. I consider *Antisexus* as a necessity that every cultural person needs to have—a weapon that can be used both at home and in the battlefield. We declared the exemption of the *Antisexus* from any taxes. Women are liberated from sexual responsibility. For the members of the Fascist Union the existence of *Antisexus* is necessary and everyone from the king to the poor of Rome must have it.

VIKTOR SHKLOVSKY

Women are passing by just like crusades. *Antisexus* is a natural early morning sunrise. But everyone can realize that it is about the style and format of the automated era. You can live better than in a condom.

FIRM'S COMMENTS

Since we cannot include all the reviews, the firm aims to publish three volumes that are dedicated to the ratings that famous people in art, sciences, social democracy, finance, politics and communism give to our devices. In the next volume we will publish the reviews of the following thinkers...

'Antisexus' is translated by Anna Kalashyan from Andrey Platonov, *Writings Volume 1: Stories, Poems*, Moscow: IMLI, 2004. The piece was published in 1981 in the West in *Russian Literature*. It was first published in the Soviet Union in 1989 in the *New World*, No. 9, 1989, pp. 124-136

This translation is provisional, and we welcome suggestions for improvement.

PROLETKULT FOR SEX WORKERS

by McKenzie Wark

*Humanity does not exist under the sign of
the divine... but of the monstrous.*

—Béatriz Préciado

“READ this!”, he said, thrusting a soiled photocopy of a typescript into my teenage hands. “It will change your life!” Then he disappeared back into the public toilet he was cruising. This was my introduction to the works of Foucault. It was an ‘amateur’ translation, made by a self-described “nasty street queen.” And it did change my life, after a fashion. The most interesting books are often works of low theory. They may be written by people schooled in the high theory of the seminar room, but they take those sorts of intellectual resources and apply them to the gap between abstract powers and the sensations of everyday life. Marx and Spinoza, let’s recall, were not philosophers.

Testo Junkie by Béatriz Préciado is a low theory book. It’s a little rough and raw, but its brilliant. I have never met Préciado, and its unclear what pro-

noun would be best, so I'm going for s/he. Like Haraway Préciado received a Catholic education, perhaps of a more intensive form given that s/he grew up in the dying days of Franco's Spain. Préciado's relation to it was rather more contrarian than Haraway's. Préciado's first psychoanalyst explained to at age 14 that s/he wanted to "arm wrestle God."⁵ S/he has traveled through at least four cities, three languages, and two genders. She met Derrida while studying philosophy at the New School, while he was writing about St Augustine, whose *Confessions* about changing faith reminded her of contemporary writings about changing genders. S/he lived in Paris for a while, then got a PhD in architecture.⁶

In *Testo Junkie*, s/he documents a short period of life when s/he took testosterone, and builds out an astonishing conceptual frame for thinking what that molecular experience might mean. Its not a memoir. It may be a study of emotions, but only those that are not private. Like any good twenty-first century book, it is a "... a single point in a cartography of extinction."⁷ It's a rare book in its frank knowingness about this discontinuity, about writing in the wake of the carbon liberation front.

Préciado is not sure if s/he is "a feminist hooked on testosterone, or a transgender body hooked on feminism." As for testosterone: "I take it to foil what society wanted to make of me, so that I can write, fuck, feel a form of pleasure that is post-pornographic, add a molecular prosthesis to my low-tech transgender identity composed of dildos, texts, and moving images; I do it to avenge your death."⁸

The death is that of French autofiction writer Guillaume Dustan. The book hovers between a memorial for him, and a celebration of her relations with writer and film maker Virginia Despentes: "fucking her is harder than factory work," but she comes to be "covered with my feminism as if with a diaphanous ejaculation, a sea of political sparkles."⁹

5. Béatriz Préciado, *Testo Junkie: Sex, Drugs, and Biopolitics in the Pharmapornographic Era*, translated by Bruce Benderson, Feminist Press, New York, 2013, p. 90.

6. Béatriz Préciado, *Pornotopia: Arquitectura y Sexualidad en Playboy Durante le Gerra Fria*, Editorial Anagrama, 2010. For some architectural antecedents to Préciado, see Beatriz Colomina, *Domesticity at War*, MIT Press, Cambridge MA, 2007 and Beatriz Colomina et al, *Cold War Hothouses*, Princeton Architectural Press, New York, 2004.

7. Préciado, *Testo Junkie*, p. 12.

8. Préciado, *Testo Junkie*, p. 16. On the 'trans' question in feminism, see Rita Felski, 'Fin de siècle, Fin de sexe', *New Literary History*, Vol. 27, No. 2, 1996, pp. 337-349, which interestingly links the transgender to the transhistorical.

9. Préciado, *Testo Junkie*, p. 98, p. 97; Guillaume Dustan, *In My Room*, Serpent's Tail, London, 1998; Virginie Despentes, *King Kong Theory*, Feminist Press, New York, 2010.

The bulk of the book is not about such things. It is rather about what one can think by extension from such experience. It is about mapping the commodity economy centered on the management of bodies, sexes, identities, or what Preciado calls the “somatico-political,” of how it finds itself both making and made over by “the sex-gender industrial complex.”¹⁰ Its an exercise in Bogdanovian substitution, building out a basic metaphor to show the whole world made out of one’s own experience of labor.

The most interesting kind of labor is now that of the “production of the species as species.”¹¹ For Pr ciado, the key objects to sex-gender business are synthetic steroids, porn and the internet. What results is a pharma-porno-punk industrial complex. It was hidden under the Fordist manufacturing economy and now revealed by the latter’s displacement onto the parts of the world. In the over-developed world of Europe, America and Japan, this feedback loop between techno-science and bodily wants now emerges as the engine of commodification.¹²

Platonov, of all people, saw it coming. In a strange text of 1926 called ‘Anti-Sexus’, first fruit of his factory of literature d tournement techniques, he writes imaginary advertising copy for the *Anti-Sexus* device, whose manufacturers have conquered all the world markets and are now moving into the Soviet Union. *Anti-Sexus* is a sexdesign machine not for repressing sex but regulating it. “Our company has transformed an elemental urge to an ennobling mechanism.” The spiritual pacification henceforth secured only by conjugal love can now be had at a modest price by everyone. “A special selector disc allows users to regulate the expenditure of semen.”¹³

Platonov writes fake testimonials from the great leaders of the day. Henry Ford praises this “electrical transformer that turns wild forces of nature into standardized automatons.” Ford’s son says it will free young workers from the obligation to get married, after which they demand higher wages. Chamberlain says it will reduce colonial revolts, and spare the wives of colonial administrators from rape. Douglas Fairbanks foresees that it will change cinema, which will have to attach itself to other desires. Mussolini thinks women will

10. Pr ciado, *Testo Junkie*, p. 28.

11. Pr ciado, *Testo Junkie*, p. 51. On the commodification of life, see Melinda Cooper, *Life as Surplus*, University of Washington Press, Seattle WA, 2008.

12. On Fordism, see Michel Aglietta, *A Theory of Capitalist Regulation: The US Experience*, Verso, London, 2001.

13. Andrei Platonov, ‘The Anti-Sexus’, translated by Anne O. Fisher, *Cabinet*, No. 51, Fall 2013, pp. 48-53. See also Aaron Schuster, ‘Sex and Anti-Sex’, in the same issue.

be freed by it and become assets to the nation.

Charlie Chaplin is against it, as sex is at least the pretext for moments of comradeship between suffering bodies. And then there's Ghandi: "If you do not want to transform it into a tree of knowledge, it is better to drain the seed down the metal, than into the vulnerable body of a human being, created for friendship, thought, sanctity." While Platonov's sentiments are probably closer to Ghandi and Chaplin, the conceit of its introduction into the Soviet Union seems to suggest that this underbelly of Fordism, the industrialization of sex and gender, found its way into the Soviet mirror-world version of commodification too.

"I look for keys to survival in books," says Préciado.¹⁴ As in Haraway, scattered in *Testo Junkie* are useful lists of writers and artists for anyone to détourn: Jean Genet, Walter Benjamin, Monique Wittig, Susan Stryker, Edmund White, Faith Ringgold, Faith Wilding, Jill Johnson, Valerie Solanas, Silvia Federici, Ellen Willis, Kathy Acker, Sandy Stone, Shu Lea Chang, Diane Torr, Del LaGrace Volcano, Pedro Lemebel and Michelle Tea. Platonov is not on this list, but he could be. As in any low theory book, the reading list is determined by a need to survive rather than disciplinary boundary keeping. What is of interest is how Préciado pulls it off.

This is not just another narrative account of the *affect* of a queer, bohemian experience. Préciado starts producing its *concept*: "There is nothing to discover in sex or in sexual identity; there is no *inside*. The truth about sex is not a disclosure; it is *sexdesign*. Pharmaco-pornographic biocapitalism does not produce *things*. It produces mobile ideas, living organs, symbols, desires, chemical reactions..."¹⁵ Its not about the personal affects so much as the systematic effects that produce them: it's a cyborg infrastructure.

Nor is all this something imposed entirely from without on some pre-existing body or sexuality. If there's an agency within the system, its not identifiable with the romance of the natural body. But there is nevertheless an agency that could have a politics, in and against the mesh. "What if, in reality, the insatiable bodies of the multitude—their cocks, clitorises, anuses, hormones, and neuro-sexual synapses—what if desire, excitement, sexuality, seduction, and the pleasure of the multitude were all the mainsprings of the creation of

14. Préciado, *Testo Junkie*, p. 135. See Katie King, 'Feminism and Writing Technologies', *Configurations*, Vol. 2., No. 1, 1994, pp. 89-106.

15. Préciado, *Testo Junkie*, p. 35. See also Antonella Corsani, 'Beyond the Myth of Woman: The Becoming Transfeminist of (Post-)Marxism', *SubStance*, Vol. 36, No. 1, 2007, pp. 107-138.

value added to the contemporary economy? And what if cooperation were a masturbatory cooperation and not the simple cooperation of brains?”¹⁶ This adds a whole new field of sensation to comradely labor.

There’s a challenge here to rethink what the labor point of view is in the twenty-first century, of a related but different kind to that in Haraway. “The raw materials of today’s production process are excitation, erection, ejaculation, and pleasure and feelings of self-satisfaction, omnipotent control, and total destruction.” The production of sex-affect is now the model for all other kinds of production. “Sex is the corollary of capitalism and war, the mirror of production.”¹⁷ Or so it at first appears. One might rather inquire as to the infrastructure through which they are jointly produced and refracted.

But rather than labor power or the general intellect, Préciado identifies that which is both producer and produced, the agency of the system, as *potentia gaudendi*, or orgasmic force, a capacity for being excited, exciting and being-excited-with. This sounds a bit like the passions in Fourier, but in Préciado, *potentia gaudendi* is not a romantic concept, a memory or residue of a life before reification. Commodification is at “the transformation of our sexual resources into work” and also what exceeds it.¹⁸ As with the *Anti-Sexus* product, capital tries to privatize *potentia gaudendi* but it exists really as an event, a practice, or perhaps an evolutionary process that might point beyond the commodity form.

I’ll come back to this *potentia gaudendi* later. For now, its crucial to grasp that for Préciado, it does not exist outside of techno-science. It isn’t a natural core. In this regard its different to Marcuse, or the sexpol of Willem Reich and all that descends from it.¹⁹ The market isn’t an outside power repressing or even making work some natural given sexuality. Nor is the body even a coherent unit within this economy. “The sexual body is the product of a sexual

16. Préciado, *Testo Junkie*, p. 37. See Michael Hardt & Antonio Negri, *Multitude: War and Democracy in the Age of Empire*, Penguin Press, New York, 2004; Paolo Virno, *A Grammar of the Multitude*, Semiotext(e), Los Angeles, 2004.

17. Préciado, *Testo Junkie*, p. 40; Jean Baudrillard, *The Mirror of Production*, translated by Mark Poster, Telos Press, 1975.

18. Préciado, *Testo Junkie*, p. 131. See Charles Fourier, *Des Harmonies Polygames en Amour*, edited by Raoul Vaneigem, Rivages Petite Bibliothèque, Paris, 2003. In Fourier there are twelve passions, rather than just one. *Potentia gaudendi* may well be a détournement of what Yann Moulier Boutang calls *libido sciendi*, which is supposedly the new motivating force, after the desire for wealth and power. See *Cognitive Capitalism*, Polity, Cambridge UK, 2011, p. 76.

19. See Donna Haraway, *Simians, Cyborgs and Women*, p. 9ff.

division of flesh according to which each organ is defined by its function.”²⁰ Here s/he sounds like media archaeology, but of all of the sex-organs rather than just the sense-organs.

Préciado connects how the internet changes certain things about the commodity form to two other regimes: pharmacology and pornography. The pharma part includes the production of the Pill, Prozac, Viagra, while the porno part is a corresponding shot list of blow jobs, penetrations, spit-roastings and so forth. What the internet plus pharma and porno produce is an distinctive kind of control of bodies coded female, while being attentive to the ejaculatory function of bodies coded as male.

To the extent that pharma-porno apparatus produces objects, they are just props for producing subjects. Those subjects are less coherent than they appear. Its more a system of plugging pills or dicks into mouths, dildos in vaginas, inserting silicone into breasts or transferring skin and fat from arms to make penises, spritzing images at eyeballs—and introducing hormones to bodies of all kinds. Looking away from the corporeal fetish, we find a series of molecular industries producing techno-fictive bodies.

It’s a squishy version of Deleuze’s ‘control society’ thesis: “A politically programmed ejaculation is the currency of this new molecular-informatic control.” This is the age of the soft machine. There’s a new regime of power more sophisticated than what Foucault called the disciplinary. “The body no longer inhabits disciplinary spaces but is inhabited by them.”²¹ Whether or not Big Brother is watching you, your artificial hormones and mood-managing molecules are certainly regulating you.

There are certain tensions in this system. On the one hand, these are technologies which have the potential to disassemble gender binaries, but on the other, there’s a massive effort to produce and reproduce exactly those binaries. Pharma-porno capitalism fabricates the idea of a naturalism of sex and gender all the better to make tech that approximates that cut. All the better to sell image and chemical props to make bodies appear as if they follow the codes.

20. Préciado, *Testo Junkie*, p. 46. Friedrich Kittler, *Discourse Networks 1800 / 1900*, Stanford University Press, Stanford CA, 1992; Friedrich Kittler, *Gramophone, Film, Typewriter*, Stanford University Press, Stanford CA, 1999. Kittler’s work spawned a rather relentlessly empirical study of ‘media archaeology’ of all kinds, but is also usefully read as a prehistory to the production of gendered cyborgs.
21. Politically programmed ejaculation, Préciado, *Testo Junkie*, p. 77; the body no longer inhabits, *Testo Junkie*, p. 79. Gilles Deleuze, ‘Postscript on the Societies of Control’, October, Vol. 59, Winter 1992, pp. 307. See Alexander Galloway, *Protocol: How Control Exists After Decentralization*, MIT Press, Cambridge MA, 2006.

Préciado builds on the understanding of the gendered body Haraway extracts from her study of biological techno-science. Haraway: "... the natural body is conventionally a biotechnological cyborg—an engineered communications device, an information generating and processing system, a technology for recognizing self and non-self (paradigmatically through the immune system), and a strategic assemblage of heterogeneous biotic components held together in a reproductive politics of genetic investment. Genetic currency is golden, a sign of a world always like itself, univocal."²²

The sex-gender distinction, Preciado usefully reminds us, did not originate in feminism or the trans-community, but in the biotech industries built on the techno-science biology of the postwar years that Haraway anatomizes. Haraway: "Gender is kind, syntax, relation, genre; gender is not the transubstantiation of biological sexual difference."²³ By producing a conceptual distinction between bodily sex and subjective gender, a whole industry could then emerge in which the one could be technically re-aligned with the other.

But to be clear, Preciado does not think that the lack of naturalism of the trans-body in any way disqualifies it. All bodies lack this naturalism, and that's no bad thing. S/he is not against the cyborg-body, or techno-body, which may have as yet unexplored affordances. S/he wants to work through the way the most contemporary forms of authoritarian and exchange relation, those of molecular discipline and controlling code, produce certain bodies, but yet might enable bodies to make themselves otherwise.

The existing sex-gender industrial complex produces and reproduces bodies according to a Platonic ideal of male/female forms. These are produced, varied, but also policed by the production of normative codes of gender aesthetics, of recognition etc, which allow subjects to default towards identities as male or female, hetero or homo, cis or trans. Sex assignment procedures are based not just on external morphology but also reproductive capacity and social role—a shifting and unstable terrain anchored by a relentless production of images that reduce the messy nodes of both sex and gender to a binary form, whose most magnetic Platonic form is nothing masculine, but is rather the *jeune fille*, or The Girl.²⁴

A lot can be said about how images of The Girl fail to represent the bodies of actual women. The other side of the false coin of the image is not about

22. Haraway, *Primate Visions*, p. 355.

23. Haraway, *Primate Visions*, p. 377.

24. Tiqqun, *Preliminary Materials for a Theory of the Young-Girl*, Semiotext(e), Los Angeles CA, 2012.

what it fails to do but what it actually does. How do images, and particularly of The Girl, act as intermediaries in exchange. The Girl becomes that always-young, always-fashioned form of what Pierre Klossowski called *living money*, which acts as the guarantor of the commodity in an era without aura.²⁵ Big Brother may not be watching you, but The Girl and her little sisters are always there to be watched, and while she distracts, your data quietly ends up in the possession of a new kind of business, whose margins are in that data's unequal exchange.

The Girl can be the beard for the commodity, or can be the commodity—as porn. All kinds of codes are invented and re-invented for every sexualizable zone of the Platonic ideal of the body, but the anus has a problematic status in this schema: “it creates a short circuit in the division of the sexes. As a center of primordial passivity and a perfect locale for the abject, positioned close to waste and shit, it serves as the universal black hole into which rush genders, sexes, identities, and capital.”²⁶ No wonder ass-fucking is one of the defining genres of internet era porn, the site at one and the same time of all kinds of fantasies of male power and domination and of the ever present possibility of their destabilization.

Platonic sexual ideals of male and female are in ever-increasing need of tech and image props. Far from being ‘natural’, heterosexual reproduction is part of a vast technical apparatus. There is no bare life, there is only a bare techno-life.²⁷ Heterosexuality is a politically assisted reproductive technology. While it's not part of Préciado's beat, any cis-woman who has negotiated a ‘birth plan’ with a hospital will have a lot of thoughts about this. Long before the decision about whether to eat the placenta, a whole series of negotiations with the cyborgian tendrils of modern medicine will usually have transpired.²⁸ Already by the end of the 50s, the supposedly natural reproductive system was becoming something else. Formula replaced or supplemented breast milk. Oral contraceptive pills were poised to become one of the most commonly ingested prescriptions of them all.

25. Pierre Klossowski, *Le Monnaie Vivante*, Rivages Petite Bibliothèque, Paris, 1997.

26. Préciado, *Testo Junkie*, p. 71. See also Tim Stuetgen, ‘Disidentification in the Center of Power’, *WSQ: Women's Studies Quarterly*, Vol. 35, No. 1 & 2, Spring 2007, pp. 247-270.

27. On ‘bare life’. See Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life*, Stanford University Press, Stanford CA, 1998.

28. See Christen Clifford and David Heatley, ‘My Home Birth: A Graphic Memoir’, *smithmag.net*, 6th May 2009, which recounts the home birth of Vera Clifford Wark, to whom this book is dedicated.

Préciado's thinking builds here on Haraway and also on Teresa de Laurentis, and her critique of second wave feminism's naturalizing of femininity.²⁹ Under the universality of the category of woman a host of other things are hiding as we now know, from race and class to technologies for producing and sustaining genders. De Laurentis introduced the provocative concept that there are technologies of gender. Gender becomes real when a representation of it becomes a self-representation, and those representations are industrially produced. An apparatus of gender makes the cut which produces one or other of them in its ideal form, as a thing apart.

There's a tension between the pharma and porno wings of the sex-gender industrial complex. Image production has at its core a relentlessly Platonist ideal of two genders, and spends quite a bit of time exposing and categorizing ambiguous images in between. But from the point of view of medical, rather than media, production, the category of gender reveals the arbitrary and constructive character of biomedical interventions.

Consider the different legal-medical regimes that apply to getting a nose job versus a dick job. Your nose is your private property. If you think it is too big or too broad or something, that's your concern, as are any complicated racialized assumptions about the Platonic form of perfection of the nose. But if you want a dick job, that's something else. Removing one, or having one constructed on your body, is not a matter of the body as your private property. It's a matter of your body as a thing whose normative sex and gender is assigned by the state.

Bodies are not such coherent things, then. They are fabricated in meshes of images, tech, laws, molecular injections and so on. "We are not a body without organs, but rather an array of heterogeneous organs unable to be gathered under the same skin." Pharma-porno gender is not just an ideology or an image or a performance. It gets under the skin. It's a political technology, "and the state draws its pleasure from the production and control of our pornogore subjectivity."³⁰

But its capital and tech rather than the state that most interests Préciado. "These artifacts (us) can't exist in a pure state, but only within our enclosed sexual techno-ecosystems. In our role as sexual subjects, we're inhabiting

29. Theresa De Laurentis, *Technologies of Gender: Essays on Theory, Film and Fiction*, Indiana University Press, Bloomington IL, 1987.

30. Préciado, *Testo Junkie*, p. 116, p. 118.

bio-capitalist amusement parks. We are men and women of the laboratory, effects of a kind of politico-scientific bio-Platonism.”³¹ She usefully extends what is basically a Foucauldian way of thinking onto new terrain, where commodification and power meet.

In some ways Préciado’s writing is about what Jean-François Lyotard called libidinal economies, which now work on digital and molecular tech that produce sex, gender, sexuality and subjectivity. The pharma and the porno parts of this economy work in opposition as much as together. Porn is mostly propaganda for Platonist sex division, although there are of course niche tastes. (One wonders what Préciado would make of Mark Dery’s essay on decapitation porn.) Gender-codes are continually mutating, distributing and redistributing, if mostly curling around the same bifurcated distribution.³²

But when it comes to pharma, there are only techno-genders, of increasingly ambiguous kinds. The disgraced cyclist Lance Armstrong and F2M trans-men are the product of the same kinds of hormones from the same kinds of labs. Préciado wrote *Testo Junkie* while taking testosterone. S/he thinks of herself as neither testo-girl nor techno-boy, but a port for inserting the hormone. She is aware that testosterone isn’t masculinity. Préciado’s self-directed endocrinal reprogramming only makes sense together with a certain political agenda. It takes place outside of any medical regime, because to partake in that is to give one’s body over to the state’s decisions about what your sex and gender are or should be, and what technologies will ‘properly’ align these divergent parts of the state’s own property.

However, to do so is to risk getting caught in another disciplinary net—the one strung to catch ‘addicts’. If Préciado’s testosterone-taking is not sanctioned by one kind of medicalized discourse, it risks another. If s/he want to convince a doctor that there is a misfit between a body’s sex and gender, there’s a regime to deal with that. But if s/he wants to remain ambiguously between genders? If s/he want to take hormones for aesthetic reasons? And what is at stake in taking a drug which transforms the physical body as its direct goal and subjective feeling only secondarily, rather than the other way around? What, in other words, is at stake in the industrialization of the hormone? Préciado’s

32. Mark Dery, *I Must Not Think Bad Thoughts*, University of Minnesota Press, Minneapolis, 2014; Jean-François Lyotard, *Libidinal Economy*, translated by Ian Hamilton Grant, Indiana University Press, Bloomington IL, 1995, Dominic Pettman, *Love and Other Technologies*, Fordham University Press, New York, 2006.

drug-body is orphaned from both the disciplinary control of both addiction and gender-reassignment.

The unconscious and the hormone were discovered around the same time. The former is about linguistic signs, but the latter about chemical signals in the body. The study of hormones—endocrinology—is a part of the founding or refounding of a wide range of knowledge on the basic metaphor of communication, information and code-causality. There were some bumps along the way, as with any new science. Even Bogdanov fell for some total pseudo-science about monkey-glands as a way of promote longevity and vitality. In retrospect the surrealist monkey-gland moment in endocrinology actually did foreshadow what the field’s ambitions were, if not its methods. “Hormonal theory represents another form of mass communication.” Hormones act at a distance—they are a kind of telesthesia. As such they can act to ‘discipline’ a body without having to restrain it.³³

“Hormones are bio-artifacts made of carbon chains, language, images, capital, and collective desires.”³⁴ They are part of a genealogy of the techno-molecular control first of women (the Pill) now of men too: Testosterone, Viagra, etc. All sorts of bodies can be produced via artificial hormones, but they are still organized around the Platonist binary. Interestingly, the FDA at first rejected the Pill. The early versions suppressed menstruation altogether, which was too radical a technical reprogramming of gender. It was approved once the period cycle—or something mimicking it—was restored by lower dose formulations.

Like Barad, Préciado wants to go beyond Foucault’s thinking on the disciplinary apparatus, and also beyond Judith Butler’s thinking about gender performativity. Gender isn’t just performative at the level of gesture and language, but also via a kind of bio-mimicry or bio-drag. There’s a molecular dimension, the pharma dimension. In that planetary California of the over-developed world at least, we all do bio-drag, a mimesis, more or less parodic, of the Platonic gender ideals, propping up our bodies with chemical assistance as much as dress codes and cosmetics.

From some advertising for cosmetics I saw stenciled on Bigelow’s pharmacy on 6th avenue in New York: “Created by women, for women and tested

33. Préciado, *Testo Junkie*, p. 160.

34. Préciado, *Testo Junkie*, p. 167.

on women.” A certain appropriation of feminism into commodity fetishism connects the flows of money and molecules via a remaking of bodies not just as appearances but at the molecular level.³⁵ Commodity fetishism joins hands with code fetishism.

These relatively new kinds of molecular power modify bodies themselves as living platforms: “We are certainly still confronting a form of social control, but this time it’s a matter of control lite, a bubbly type of control, full of colors and wearing Mickey Mouse ears and the Brigitte Bardot low cut look, as opposed to the cold, disciplinary architecture of the panoptic illustrated by Foucault.”³⁶ This is an era of the *weaponized adorables*, where what is apparently most cute and friendly is what is really out to acquire your data and metadata, in exchange for a few meager jollies.

Walk around an affluent part of California and you will see them. It is “a new type of high-tech heterosexuality...: the techno-Barbie, remaining eternally young and super-sexualized, almost entirely infertile and non-menstruating but always ready for artificial insemination and accompanied by a sterile super-macho whose erections are technically produced by a combination of Viagra and audio-visual pornographic codes...”³⁷ Which suggests that there are no cis-gender bodies, as the term implies that one could be ‘on the side’ of a pre-given standard, when all such standards are now products of a sex-gender industrial complex. The innovation of Préciado’s work is to insist so thoroughly that all of sex, gender and identity are on the same level, all produced industrially, and by the same apparatus. Even the apparently ‘natural’ cis-body requires molecular processing, of its organic food intake, its herbal cosmetics, and so on. Perhaps we are all becoming trans-human cyborgs now.

Préciado does not much mention hormone replacement therapy for menopausal women, but one could add that to this picture. The next frontier for the sex-gender industrial complex is probably marketing hormones to men without undermining their sense of masculinity. The masculine body has its own honor-codes of supposed naturalism. Taking steroids to improve athletic performance is somehow always ‘wrong’, even if Viagra can now be an accepted chemical modification of the male body for improving sexual performance.

35. On commodity feminism, see Nina Power, *One Dimensional Woman*, Zero Books, Winchester UK, 2012; Laurie Penny, *Meat Market: Female Flesh Under Capitalism*, Zero Books, Winchester UK, 2011.

36. Préciado, *Testo Junkie*, p. 211. On what Rachel Law and I have called weaponized adorables, see Rachel Law and McKenzie Wark, *WANT*, New York, 2013.

37. Préciado, *Testo Junkie*, p. 220.

First world problems: If female bodies are supposed to mark their distance from the Platonic perfection of The Girl, male bodies are becoming deeply strange. The young men one can see in the fashionable districts of Los Angeles seem in the midst of a crisis of role. They work in service and retail, and yet make their bodies with balloon animal muscles. Its an effect that can be achieved even without hormones. Creatine and other protein powders cause the muscles to retain water.³⁸

So long as there are men there will be feminism. But Préciado wants to pull back from certain entanglements made by liberal feminism. One is the pact it entered with the the pharmacology industry. It is not that defending Planned Parenthood is a bad thing, but that the unexamined component is the hormonal transformation of the body. Préciado is also wary of feminisms that are complicit with the state, including on issues of pornography. It hardly bears repeating that when states increase the policing of pornography it is usually images of non-normative sexualities that are criminalized or excluded.

“Pornography is sexuality transformed into spectacle.” It is now the paradigm of culture industry. “The culture industry is *porn envy*.” Porn is the management of the excitation-frustration circuit. The culture industry now wants to produce the same physiological effect. Porn may have more to do with freak shows and the circus than cinema. Certainly the culture industry is now redolent with clowns. “Paris Hilton represents the zenith of the sexopolitical production of the luxury white heterosexual technobitch.”³⁹ But it only appears that she is living a reality-TV life of carivalesque prat-falls: her whole life is under surveillance. Pornography is doubled by scrutiny and control of the affects and discharges of bodies.

Porn is a kind of intra-action via which gender is produced. Porn is regulated by a kind of “Spermatic Platonism” in which only the cum-shot is real. Porn produces the illusion of *potentia gaudendi*, when excitation is actually a more or less involuntary response. However, “pornography tells the *performative* truth about sexuality.”⁴⁰ One can claim that the sex in porn is merely performed and is thus unreal, or that the bodies are unreal, but this very unreality is precisely the Platonist normative forms around which the whole sex gender

38. Here I have stolen a bit from Clive Martin, ‘How Sad Young Douchebags Took Over Modern Britain,’ *Vice Magazine*, 13th March 2013.

39. Préciado, *Testo Junkie, spectacle*, p. 266; *porn envy*, p. 271; *technobitch*, p. 280.

40. Préciado, *Testo Junkie*, p. 269; p. 270.

industrial complex is made to circulate.

Not only sex but labor is becoming pornified. We are all coming to work in a porn factory fueled by bodily fluids, synthetic hormones, silicon, stimulants, mood regulators and digital signs. Sexual labor transforms *potentia gaudendi* into commodities. If one were to look for the proletkult of emerging kinds of affective labor, it would be among pornographers and sex workers. Sex workers are still the 'other' to most respectable people, but perhaps a wider definition of sex work would help.⁴¹

On a spa day with Virginia Despentès, Préciado discovers the erotics of the personal care industry. Perhaps some people would just rather have the actual massage than the happy ending, but in a way it's all sex work. Or perhaps, to riff off Préciado's line of thought further, we should think about both sex workers and 'gender workers' as on a continuum in the industrial production of bodies and their identities.

Préciado calls this a pornification rather than a feminization of labor. The concept of a feminization of labor assumes certain things about femininity. For one thing, it "omits the cum shot."⁴² And it still buys into Platonist gender absolutes. Affective labor is a girl thing; effective labor is a boy thing. Flexibility as a girl thing; stability as a boy thing—and so on.

Préciado is also hostile to the 'cognitive' or 'immaterial' labor thesis that bedevils the thought of the inheritors of Italian workerist theory: "None of them mention the effects on their philosopher's cocks of a dose of Viagra accompanied by the right image."⁴³ Perhaps this is a time of übermaterial, not immaterial, labor.

And it is not a 'sexual division of labor'. The term 'sexual' in sexual division of labor silently sanctions a hetero view of reproduction, as if it goes without saying that only hetero reproduction is normal. It also takes the asymmetries of the hetero sex act as the norm. The list of body types that can be penetrated includes at least the bodies of cis-females, trans-females and gay men. The sexual division of labor concept also leaves out the technical apparatus within which it is produced.

There is no immaterial labor, nor is there a 'general intellect'. There is gen-

41. For a rare book that treats sex work as actual work, see Melissa Gira Grant, *Playing the Whore: The Work of Sex Work*, Verso, Brooklyn NY, 2014.

42. Préciado, *Testo Junkie*, p. 49.

43. Préciado, *Testo Junkie*, p. 293.

eral sex. This might be another name for the *potentia gaudendi*, “the impulse for communal joy that travels through the multitude, convulsing the totality of excitable producer-bodies of capital.”⁴⁴ Modernity is the sexualization of the domestic and the domestication of the sexual. The sexual-domestic coupling has mostly taken place under the sign of private property. (Infidelity is theft). But there’s another side—*potentia gaudendi*—that which is both produced by, and enfeathered by, the sex gender industrial complex.

Perhaps ‘immaterial labor’ was not a particularly helpful concept. What is refreshing about low theory is that when it works it starts from actual experiences, then it appropriates and adapts concepts to fit the articulation of the experience. Its always a kind of *détournement* or high-jacking of high theory for other purposes. As such it tends to shun what might otherwise be endlessly productive research programs just for lack of evidence that their conceptual objects actually correspond to anything. Hence Préciado pretty ruthlessly cuts through some decades of social theory.

S/he doesn’t see psychoanalysis, as traditionally understood, as all that much help either: “The father and mother are already dead. We are the children of Hollywood, porn, the Pill, the TV trashcan, the internet, and cyber-capitalism. The cis-girl wants to transform her body into a consumable image for the greatest number of gazes... She wants her pornification... to transform her body into abstract capital.”⁴⁵ Cyborg bodies are orphan bodies that call for a kind of media theory, not of how images are produced of them, but of how images as produced as them.

‘Queer’ too is becoming commodified, and critical thought and practice has to move on. But it has to steer away from both the annihilating temptation (speculative realism) and the messianic temptation (leaping communisms). “Let us be worthy of our own fall and imagine for the time left the components of a new porno-punk philosophy.”⁴⁶ Such might be one ‘cyborgkult’ practice for the times.

Préciado’s program is to transform minority knowledge into collective experimentation, to work for the common ownership of the biocodes. Like

44. Préciado, *Testo Junkie*, p. 309. Compare here Préciado to some other attempts at a queer Marxism: Rosemary Hennessy, *Profit and Pleasure*, Routledge, New York, 2000; Kevin Floyd, *The Reification of Desire*, University of Minnesota Press, Minneapolis, 2009; José Esteban Munoz, *Cruising Utopia*, NYU Press, New York, 2009.

45. Préciado, *Testo Junkie*, p. 408.

46. Préciado, *Testo Junkie*, p. 347.

Suely Rolnik, s/he sees psychiatry as a foreclosing of aesthetic responses to creating subjectivity.⁴⁷ S/he puts gender dissent in an aesthetic context, rather than one of dysphoria, pathology etc. S/he compares taking of testosterone to Walter Benjamin taking hash, or (we might add) Alexander Trocchi taking heroin and Bogdanov's early blood exchanges: a protocol for experiment not sanctioned by the state or the professions, and to be understood more as the construction of situations in everyday life.⁴⁸

"Political subjectivity emerges precisely when the subject does not recognize itself in its representation." That break creates the space not just for another kind of representation, but another life. It's time, s/he says, to become gender pirates or gender hackers: "We're copyleft users who consider sex hormones free and open biocodes." S/he calls for a "molecular revolution of the genders."⁴⁹ There's no natural or private acts to which to return. As Haraway intuited, information technology abolishes the private by undermining the partitions in time and space between public and private realms through which they pass.

Praxis, then is "... a matter of inventing other common, shared, collective, and copyleft forms of the dominant pornographic representations and standardized sexual consumption." Those who are its objects can become its subjects. The organic intellectuals of such a movement are pornographers and sex workers as theorists. And as for practice, in the over-developed world, "... since the 70s, the only major revolution has been carried out by gays listening to music while getting high and fucking."⁵⁰

"Power experienced slippage; it shifted, throughout the previous century, from the earth to manufacturing, then toward information and life." But Préciado opens up a space for thinking that last bit—life—in a fresh way. Desire and sexuality, like information, or even as information—defy ownership: "my possession of a fragment (of information, desire, sex, gender) doesn't take it away from you."⁵¹ Sharing multiplies desire, sex and gender.

47. See Félix Guattari and Suely Rolnick, *Molecular Revolution in Brazil*, Semiotext(e), Los Angeles CA, 2008.

48. Walter Benjamin, *On Hashish*, Harvard University Press, Cambridge MA, 2006; Alexander Trocchi, *Cain's Book*, Grove Press, New York, 1992.

49. Préciado, *Testo Junkie*, p. 397, p. 55, p. 234.

50. Préciado, *Testo Junkie*, p. 272, p. 417.

51. Préciado, *Testo Junkie*, p. 277, p. 277.

But the idea of sexual liberation is obsolete.⁵² There's no pre-existing natural state of sex that is repressed, as we all learned from Foucault, whether from a 'street' photocopy or in grad school. Now we have to think about how to hack pharma-porno domination from within. Préciado has some slogans for it, each of which could equally well name a punk band or a conference: FreeFuckware! OpenGender! BodyPunk! PenetratedState! PostPorn! There is monstrous fun to be had. There are new bodies and their relations to sexdesign.

As remote as they are in so many other respects, Preciado and Platonov are interested in writing as versions of détournement. Both write from the point of view, not so much of labor as what the labor point of view excludes: kinds of sub-prole practice. In Préciado, it is no longer a détournement of the languages of the new party and the old church. It's the languages of medicine and theory.

Once we add Préciado to the mix, our cyborgian Haraway assemblage is no longer occupying the labor point of view of production or the feminist point of view of reproduction, but also the queer point of view of non-production and non-reproduction. Perhaps, after Baudrillard, we could call these modes of seduction, in the sense of diverting turning aside, a kind of molecular dérive.⁵³

In *The Gold Coast*, his future vision of California's Orange County as a property developer's dream, Kim Stanley Robinson has his young, garrulous, gym-shaped, drug-addled characters come up with a game they call *Negative Disneyland*.⁵⁴ The premise of the game is that it takes much more time waiting in line for a Disney ride than the ride itself. So: why not try to maximize the waiting time relative to the ride time? This casual situationist game throws in relief the gap between the awaiting bodies and the promised state of kinesthetic and corporeal enjoyment. Is that all there is? Like Préciado, these characters at least make what they can of the detritus of a world not of their making, and to which there is no outside.

Is there a way to think forward from the present to worlds that might be

52. For a parallel rethinking, from one of the founders of gay liberation: Dennis Altman, *The End of the Homosexual?*, University of Queensland Press, Brisbane, 2014.

53. Jean Baudrillard, *Seduction*, Palgrave Macmillan, London, 1991.

54. Kim Stanley Robinson, *The Gold Coast: Three Californias*, Orb Books, 2013. Which could be read also as a zen rather than a situationist moment. See Istvan Csicsery-Ronay Jr., 'Possible Mountains and Rivers,' *Configurations*, Vol. 20, 2012, pp. 147-185.

more habitable? Even if that more habitable world is, as in Bogdanov—on Mars? Here we turn to Kim Stanley Robinson’s signature achievement, his *Mars Trilogy*. Like his fellow Californian Donna Haraway, Robinson writes from the starting point of cyborg-being, an inhuman life woven out of advanced techno-science. If Platonov’s conceptual personae map out all the routes to revolutionary failure, in Robinson we have a more optimistic set of such personae, who between them figure a way out of this Negative Disneyland.

Haraway: “Heroes are in short supply, but actors are proliferating.”⁵⁵ The cyborg is a conceptual personae, like Marx’s and Bogdanov’s worker. It is a more hybrid personae than the worker, more entangled in its intra-actions, and not just with nature but also all kinds of apparatus. But it is not yet a plurality of personae. Haraway is adept at gleaning and inspecting the rhetorical detritus that pools in the eddies between discourses and practices, and attuning the reader to question too quick an assimilation of any fragment into the Borg-like edifice that is techno-science. Putting such fragments back together calls for another kind of writing, as it happens in another genre that Bogdanov also attempted.

Kim Stanley Robinson writes of a plurality of a certain kind of cyborg character. They are not exactly comrades, as in Platonov, although they are just as distant from the bourgeois world. Robinson’s plurality of conceptual personae are scientists, entangled cyborgs made of flesh and apparatus, each sensing the world through a particular lens. Robinson’s thinking is distributed across the differences between several such personae, and asks the question of how they might be more than scientific rivals and colleagues, but might also be collaborators, and in a certain sense also comrades.

We turn then to the question: what might be the modes of existence of a hacker class as a class? Might there be a way to write in the era of the carbon liberation front within a genre that can navigate between multiple versions of a very twenty-first century version of the labor point of view? Such a writing might afford not so much a horizon as a whole phase-space for imagining ways of leaving the twenty-first century.

55. Haraway, *Crystals, Fabrics, and Fields*, p. xix.

KIM STANLEY ROBINSON

AN INTERVIEW

MCKENZIE WARK

Let's start with sex. There's not a lot of it in your books, but when there is, it's spectacular. Weightless, naked on Mars, in a treehouse in a blizzard. Not to mention the "tabling" in Blue Mars. But it has usually been heterosexual. Then in 2312 we end up in a world of wonderfully complicated multiple genders, which opens up all sorts of possibilities. What led you to this more inventive approach to gender and sexuality in that book?

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Always good to start with sex!

In 2312, I was thinking that in three hundred years we may have become quite a bit more capable of altering our bodies, and maybe bolder too, and I wanted to suggest that in as many ways as possible. I wanted the estrangement effect of setting the novel three hundred years from now to be strong, but also based in things we are already seeing, so it seemed natural to play with gender, along with size, longevity, and so on. I wanted to suggest that we might start to turn ourselves into slightly different breeds of humans, like dogs. And if being both genders happened to help people live longer (a big if) then our naturally curiosity about the matter might be much enhanced.

I feel I've been taught a lot about gender by science fiction, including books by Joanna Russ, Samuel Delany, Ursula Le Guin, and others, and also by the science-fiction community, which has a flourishing LGBT component, pretty well integrated with the rest of it. Also I was very struck by my own experiences as a "Mr. Mom" when I did the home parenting for our two children, especially when they were infants and toddlers. I wanted to write about that again, as I did in the *Science in the Capital* trilogy, but from a different angle, to express the feeling that grew in me that gender as feeling is labile and not related to bodies per se.

I actually thought there was a lot of sex in my books, but maybe I am just more aware of it than readers, because it feels risky and exposed to me; I don't know. I do know that very early on I saw that stories often rely on sex and violence for their thrills, and I thought (and think) that the violence in art is often very ignorant, and so I was going to avoid it as much as possible—and compensate for the resulting possible lack of thrills by putting more sex in my stories.

This has been a conscious policy. But then the sex has to be interesting as writing, which is not so easy. So it's been a challenge, but something fun to try. If I can shock myself (and I can), then I can shock the reader too, I hope.

The adjective 'ballardian' shows up in Blue Mars, and by 2312 all sorts of author and book names from SF, or key terms used by famous SF authors, seem to have passed into the everyday language: dhalgren, kipple, waldo, and so on. Art works are described as goldsworthies or abramovics, as if these were whole genres of work. Do you think art and writing can actually have that capacity to name the world? And what do you think the Robinsonian contribution to naming the world might be?

Well for sure writing names the world, in that language names the world. As for art, I think its names sometimes stick. I think it makes sense to call landscape art "goldsworthies" and performance art "abramovics," because these two artists have so excelled in these genres that they have brought them to the consciousness of the general culture, so that the genres themselves can be understood to be major art forms, likely to get more and more important.

There is that big raft of words introduced into English by Shakespeare, and I think it has been happening since at a slower rate, even since dictionaries came into being. Science fiction has been pretty good at putting new words into the language by naming things before they actually exist, such as waldoes or cyber-

space. And I think ballardian and phildickian are words now, like Orwellian or Kafkaesque. I like that game, because I like to use odd words in my texts when I can, it's part of the estrangement effect of trying to convey a future. That can be overdone of course, and as time passes most invented science fiction words simply look odd ("spindizzy"), but it's still worth trying.

I doubt I have done anything like this that will last, as I did not invent the word "terraforming" but only picked up on it out of earlier science fiction; Jack Williamson invented it back in the 1930s. And the term robinsonian already refers to the Robinsonade, the adventure of a solo human in nature, an accidental association that I love.

One of the kinds of language and thinking in play in almost all of your books is a literary-critical one. Raymond Williams's structure of feeling, Greimas's semiotic squares show up. And yet your characters are often annoyed by the imprecision of just these concepts, particularly if they are scientists. Do you think it's possible to stage a useful dialog between critical and empirical or scientific thought, and might the novel actually be the ideal place to attempt it?

Yes, the novel is a great space for bringing these different realms of discourse together, and seeing what happens. I've been much influenced by Bahktin's image of the novel as polyvocal, what he calls a heteroglossia (another great word!), so that it isn't so much the novelist as a single visionary but rather something more like an old-time telephone switchboard operator, plugging in different voices and then orchestrating the flow of that chorus, so to speak. So you get chances for different points of view to speak or argue in dialogues or larger discussions, and the plots themselves also express these arguments in actions.

But also we're seeing this discussion going on in the field called science studies, or science and technology studies, which I take to be the application of various aspects of what we call theory to science, its history and current practices. So it is really the latest and most sophisticated and historicized version of philosophy of science, now that philosophy has become theory and science has become science and technology, or STEM (science, technology, engineering, and mathematics). This is a really important intersection of ideas and practices, given the situation we are in as a global civilization. It's a crucial conversation and I think it's happening in all kinds of contexts, which is a good thing.

When you are working on your books, do you treat it as a world-building exercise in which the world has its own dynamics? Or does the story call the world into being?

I think more the latter, but my story ideas are often somehow world-building ideas. At least this was true with the Mars trilogy. If the story idea is, “Mars is terraformed over a few centuries,” then this is a big problem for the novel as a form (dealing with the centuries) but also a big opportunity.

Same with the idea for *The Years of Rice and Salt*, where the world is the same to begin with, but history is different, so different that it resembles what we think of when we say world-building. Maybe that one is “Asia world.”

So I would say that my ideas often concern a group of people dealing with a landscape somehow (even the solar system as a landscape) and thus both parts of it come into play at once, so that I couldn’t say which comes first.

In many of your books, things like the weather or the geology of a situation get equal attention alongside whatever is at stake between the characters, and sometimes even more attention. It is as if you had shifted the novel’s attention to a whole other series of relationships. Do you think this is a just an aspect of the novel that had not much been explored before, or do you think you were bringing something into the form from other kinds of writing?

Well, I think there has always been a kind of novel that explores the relationships between people and nature, or a physical situation or challenge, and I have always been interested in these novels as a reader, going back to my childhood. So almost every novel has people as the central characters, but sometimes the antagonist is a natural situation, or the setting is not antagonistic exactly, but extremely interesting.

Thus *Robinson Crusoe*, which naturally I liked; and then I’m remembering James Ramsay Ullman’s novels about climbing the Matterhorn, or even *Huckleberry Finn* and the way the river is a very major presence in the novel, the third major character so to speak, or simply a dominant setting. Also William Golding’s *Pincher Martin*, and really all his first four novels; and so on. The more I think of it, the more I realize that these moments describing people in the world stick out for me even in novels that are mostly social: in *Tess of the*

D'Urbervilles, for instance, Tess's time working the fields on the moors was for me the most striking passage.

Then in science fiction, this often translates to the planetary romance, where the interest again is in people dealing with a new landscape. I always loved this kind of SF, in Jack Vance, early Le Guin, Edgar Pangborn, Frank Herbert's *Dune*, certain early John Brunner, and really the whole subgenre of the planetary romance; these were among my favorite SF novels. That's one of the reasons my Mars novels took up so much of my writing career.

I also took an interest in George Stewart's experimental novels where a natural situation or process was made the protagonist of the story, as in *Storm* or *Fire*; this was also somewhat true of *Earth Abides* (and his other novel centered on an inhuman process, *Orals Exam!*). These books of his tended to convince me that people were the necessary centers of novels, but they were like limit cases that established how far you could take things.

So, not only were these the kinds of novels that were capturing me most, but all along I've spent a lot of time hiking in the Sierra Nevadas, and earlier in my life in other mountain ranges too, and these experiences have been among the most profound of my life. They are what I like to do. And when backpacking, the weather really matters, in a way it doesn't down in civilization; it impacts that very day, that hour. You live in it. This has always struck me as worth writing about, and as something to bring to my novels that is out of my life rather than my reading. So I've tried to find stories where those experiences could be put to use.

Your characters are often quite preoccupied with their everyday habits and how or whether to change them. There's a lot of experimenting going on with forms of life. Do you think that is how social change actually happens? At the "molecular" level, as it were?

I'm not sure about that. Maybe my stories are partly to explore how that might happen. I am very interested in habits, and in describing in my novels how people live in their ordinary lives. This comes partly out of my love for Proust's novel and my admiration for how he managed to do that, by the use of certain French tenses and what Gerard Genette called "the pseudo-iterative," in which Proust will begin by saying something like "we always did this" and then go on to describe a day or time in such enormous detail that you come to realize that it could only have happened that way once, so that when he says it always

happened like that, he means the form of the day was like that, with individual details different; some kind of variations-on-a-theme thing.

So, of course novels must have plots, drama, and the urge in the reader to find out what happens next; but there's also this deep question, how did it feel to live daily life in that time and place? What did they do, what were people's habits? Which when asked of people living on Mars or Pluto, or on a spaceship, or in an alternative history where almost everyone is Asian, or in any really novel situation, is a profound curiosity in the reader; at least it is for me when I read. Certainly we read novels to get into other people's thought processes, to have a kind of imitation telepathy, but also to do a kind of living sociology or history or life-sharing. So I have always been very interested in trying to do this part of novel writing, which is a technical or formal problem, as ultimately plot is crucial too. You need both the daily and then the thing that breaks the daily, meaning the plot.

As for changing one's habits, that is so mysterious. Again from Proust; there is the moment when you are cast into a new situation and have to change habits, and I think it was Beckett in his slim book on Proust who spoke of these moments as the true existential exposure, the naked times when you are alive without the protection of your habits, and have to think what to do moment by moment, actually decide, until you settle into (I think Beckett called it ex-foliating) into a new set of habits and are somewhat protected again from that existential nakedness. This seems right to me, this is how it has felt for me, and I am very interested to try to write these moments, and present these moments as central to a plot.

Whether these moments come in reaction to broader historical changes, or purely personal events, I don't know, I think it is probably both. Simply aging can do it. Sometimes you get tired of your habits, and off you go in a new way.

I loved the way Washington DC is described in your Science in the Capital books, where the whole psychogeography of the city revolves around its remnant forest. As a writer who is justly famous for his landscape writing, I wonder what you think of actual cities, and the future possibility of cities?

I love certain cities that I know: San Francisco, New York, London, Zurich. I've also greatly enjoyed visiting many others. I was influenced in my feeling for cities by my teacher and friend, Gary Snyder, and his wonderful poem de-

scribing New York as just another natural habitat, among other things. And I think cities are better for the planet's environmental future than suburban sprawl, which I see so much of in California.

So: green cities, neo-traditional design and town planning, densification, white and solar rooftops, garden zones, pedestrian zones, mass transit; and also better agriculture to feed the urban populations, including habitat zones that connect up, so that we're sharing the planet well with the other life forms, especially the mammals that are suffering so in the current dispensation.

There is, in short, an integrated total design, including an energy and agricultural vision that could keep all the parts of the ecosystem well, including us. It's still emerging but the outlines are clear, it's only a matter of building it and enacting it. It is not a technical problem so much as an economic problem, meaning a justice problem. I think it is the big project of the next century or two. And cities will be a major part of it.

A lot of artists, writers, and filmmakers have destroyed New York City. In 2312, you drown it. What sets your version apart is that it is energetically being inhabited and made to work by New Yorkers. Would you consider yourself an optimist about the adaptability and ingenuity of our species?

Not really, but only because I don't think it takes optimism on this subject, only realism. We have been adaptable and ingenious as a species, and it won't stop happening. People are born and grow up into circumstances that they tend to think of as normal, just as we do, and if they are born and grow up in a drowned Manhattan, then they will be dealing with that without too much moaning and groaning about the lack of streets and taxis. Some will always lament and gnash teeth, but the society will get on with things. That will be true everywhere.

That said, if we acidify the oceans to the extent that we kill off the bottom of the ocean food chain, then there will be mass suffering for humans and a mass extinction event for land creatures as well as ocean creatures. So we are teetering on the brink of some very serious catastrophes that we are causing ourselves.

But what I see now is the start of the response to that emergency; not a universal response by any means, but a growing majority opinion that we have to decarbonize as fast as we can. The scientific community is convinced and getting more active in pointing this out, and the public and their political representatives are responding to the news. There will be self-interested and contrarian responses too, but I suppose that is just part of what we are as a species

and culture now. What matters is what the civilization itself does. So politics matters, even the stupidest politics. (Groan, gnash teeth.)

Practically all of your writing stages encounters between scientific or technical knowledge on the one hand and cultural or religious knowledge on the other. And now in Shaman you have gone back into prehistory, before these were really separate ways of being. I am curious as to whether you get different reactions and readings of your books from the respective halves of the “two cultures.” Do your scientist readers imagine a different KSR to us humanists?

Maybe so. My evidence is anecdotal and pretty various, in that it depends on which scientists I am talking to, and which humanists.

I do often run into scientists who assume that I am a scientist, or scientifically literate in the way that anyone would be in this scientific culture, and they take the science in my books to be natural to the genre, also partial and speculative, as it has to be. In other words, all that realm is a given to them, and then what is interesting is to discuss ramifications of the technical innovations, etc.

There has also been a considerable amount of discomfort from scientists reading my work, or hearing me talk, when I suggest that scientists and scientific institutions should get more directly involved in making political policy. That worries them, or even offends or frightens them; they see it as a potential threat to scientific integrity. But it is a way in to certain kinds of discussions about Science In Action, so I persist in suggesting this to them.

It's from the humanities and arts people that I more often get a response that is something like, “Wow, there is a lot of science in these books, how striking!” And they are more likely to ask, “where did you get your science?” or “what was your training?”—whereas many scientists don't think to ask, and seem to assume “this is something every person knows, or at least every science-fiction writer.”

This is as close as I can come to characterizing these various responses into a pattern of sorts.

Not only in *Shaman* but in the rest of my science fiction, I've been interested to cross all these ways of knowing, to think about science as a kind of religious activity, and definitely as a secretly hegemonic culture within our other various cultures, while at the same time thinking about Buddhism or art as versions of scientific thinking, or some other permanently valid way of looking at things.

The permanent necessity of philosophy and art, basically, so that we can decide what to do—that isn't a question science takes on or wants to take on. Often in my novels all these aspects are mashed together in the characters' lives, and in the plots.

While scientists, particularly when starting out, can be naïve empiricists, it seems to me that many trained in the humanities have become naïve Heideggerians. They are only able to imagine science and technology as some fallen world without real “being”. One way to read your books is as inquiries as to what to do when the past world of being is irredeemably lost. And there's a range of answers, from getting on with pure science, or engineering a better world, or creating new systems of ritual and arts of devotion. But how can these practices be put in dialog with each other?

Novels are good ways of putting these practices in dialog, by way of the characters' lives, and the plots of the novels. It's often struck me that the name “science fiction,” in some ways so inaccurate and wrong, is actually extremely powerful anyway, because the two words can be translated into “facts” and “values,” and the fact/value or is/ought problem is a famous one in philosophy, and often regarded as insoluble, so that if you call your genre “fact values” you are saying it can bridge a difficult abyss in our thinking.

This means frequent failure, of course, as it is indeed a difficult abyss. But it is a strong claim for a genre to make, and I've come to love the name “science fiction” and dislike very much the various replacement names that would supposedly rehabilitate or make respectable the genre: speculative fiction, fabulation, the fantastic, etc. None of them have the power and historical heft of science fiction.

I think we all believe deeply in science, no matter what we say as humanities people or environmentalists or leftists or whatever else we think of ourselves as (as I certainly do); any of the other positions that gives us a stance from which to criticize the sciences (religion would certainly be included here): because when we get sick, we go to the doctor. And the doctor is a scientist, and medicine is science.

Of course, as we live on, we learn that going to the doctor is by no means a sure way to a cure, and that medicine leads us into a murky world of guesses and art and precedence and probabilities, etc., etc.: but that means we are getting a very good lesson as to what science really is, all across the scientific disciplines.

It's just that when it's your own health, the stakes are higher and the lessons sometimes starker.

That being said, medicine has added many, many years to our lives, on the whole. So that that whole realm of medicine becomes a really good practical lesson in what we mean when we talk about science. I wish more people would understand that connection before pontificating about science as instrumentality, desacralization, etc., etc. Of course, yes, all true; and in the same centuries modern science has been active, capitalism has been likewise active and growing, so the two are like conjoined twins ruling the world, making it hard to de-strand the two, they are so interwoven. But I remain an advocate of science as a method of understanding, a set of institutions and practices, a philosophy of action, a utopian politics.

Shaman seems to be the first book you have written in twenty years that doesn't have the word "coriolis" in it—as in Coriolis effect. The word "katabatic" shows up a lot too (usually katabatic winds coming down off mountains). Are these phenomena in the natural world that you have a particular fondness for?

I can never remember which way the Coriolis force pushes things, and I'm always calling planetary scientist Chris McKay to get it right. This first happened when I was wondering which way the current would run in the Hellas Sea on Mars, if there were a sea filling the circular Hellas Basin. Chris is someone you can ask questions like that without startling him. I think the reason the word has recurred is that I keep writing about situations where it will somehow be a factor, as in Antarctica (is there a Coriolis force at the South Pole?), or the interior of asteroids spinning in order to create a gravity effect inside them, and so on.

Katabatic winds I have definitely felt, first when playing tennis in the Santa Ana winds in Orange County, then very definitely in the Dry Valleys of Antarctica, also a few times at Blacks Cliffs in La Jolla, and I think on certain nights in the Sierra, camped under certain plateaus. Ultimately they are no different than other winds in terms of their windiness, and fondness isn't the right word for my response to them, but I do like the word.

I like to use words out of the sciences that particularize physical processes (or generalize them) in ways ordinary language doesn't usually. In fact many of these words are simply Greek or Latin, or mash-ups of the two languages,

but they suggest a scientific precision that strikes me as both writerly (like, say, Joyce) and also comic, in the sense of Mr. Spock explaining his Spock-like thinking. Hippocampus, de-intensification, hierarchicalization, etc., etc., it goes on and on and is both funny and sharp, and musical too, in ways I like.

In 2312, where asteroids are being hollowed out and turned into Bernal spheres and inhabited, you describe in lovely detail some fantastic ecologies and sociologies—from sexliners to blackliners. There’s even an “outie” asteroid called The Little Prince. There’s a tension between the practical design problem-solving in your books and pure invention, whether of an asteroid, a tree house, or a species. What role does a nonfunctional aesthetic play in making things? And can your own books be grasped as expressions of this same aesthetic?

Yes, I think so. Form follows function, but what’s interesting is how often a functional form has its own beauty, which can then be enhanced by decoration and playfulness in detail. This is true of design in all fields. And of course, art’s main function is to entertain, so there play and beauty are part of the basic goal. I am often trying to imagine my novels as having shapes, like vases, but this is pretty abstract and invisible, and often I don’t have any real shape in my mind but am just hoping for some kind of shapeliness.

Then, in my free time, I enjoy making things with rocks, doing patio jigsaw patterns in quartzite around my house (I have one patio where three stones that made an excellent map of California are in the middle of the patio, and have rays of rock extending out from it; and another that is a kind of rock whirlpool around a Japanese maple); I also am stacking and re-stacking a drywall lake front at my wife’s family place in Maine, made of glacial cobble so that every winter the bad work I do slumps back into the lake, while the good work holds longer.

All this rock work, I realized, is like doing novels that I can actually see, which is why they give me such pleasure. My conclusion is that everyone should make things for the fun of it.

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