SCIENTISTS, OUR GREEK SLAVES

By

MANUEL CURADO

University of Minho

Braga, Portugal

curado.manuel@gmail.com

QUOTATION:
Manuel Curado, «Scientists, our Greek Slaves», conference held at the course GABBA: ETHICS, SCIENCE AND SOCIETY of the IBMC of the University of Porto, Portugal, 28th April 2008.

A Courses Catalogue
A Small (but Important) Sample of the Existing Sciences

Accounting
Applied Biology
Applied Chemistry - Specialization in Plastic Materials
Applied Languages
Applied Statistics
Archaeology
Architecture
Basic Education
Biochemistry
Biological Engineering
Biology-Geology
Biomedical Engineering
Chemistry
Communication Sciences
Communications Engineering
Computer Science
Culture Studies
Economics
Education
Environmental Sciences
European Languages and Literatures
Fashion Design and Marketing
Geography
Geology
History
Industrial Electronics and Computers Engineering
Industrial Management and Engineering
Informatics Engineering
Information Systems and Technologies
International Business
International Relations
Law
Management
Marketing
Materials Engineering
Mathematics
Mechanical Engineering
Medicine
Music
Nursing
Oriental Languages and Culture
Philosophy
Physics
Physics and Chemistry
Political Science
Polymer Engineering
Portuguese and Lusophone Studies
Psychology
Public Administration
Sociology
Textile Engineering

Let's organize this set according to two parameters…

Studies of 'What is out there to be studied'

Biochemistry
Biology-Geology
Chemistry
Geology
Physics
Physics and Chemistry

Studies of 'Man-made issues'

Accounting
Applied Languages
Applied Statistics
Archaeology
Architecture
Basic Education
Biomedical Engineering
Communication Sciences
Communications Engineering
Computer Science
Culture Studies
Economics
Education
Environmental Sciences
European Languages and Literatures
Fashion Design and Marketing
History
Industrial Electronics and Computers Engineering
Industrial Management and Engineering
Informatics Engineering
Information Systems and Technologies
International Business
International Relations
Law
Management
Marketing
Materials Engineering
Mathematics
Mechanical Engineering
Music
Nursing
Oriental Languages and Culture
Philosophy
Political Science
Polymer Engineering
Portuguese and Lusophone Studies
Psychology
Public Administration
Sociology
Textile Engineering

A few remaining hybrid or puzzling courses

Applied Biology
Applied Chemistry - Specialization in Plastic Materials
Biological Engineering
Geography
Medicine

However, let's check this out with precise historical information about the evolution of these sciences…

…and, after doing this, let's add this small set to Man-made Studies

Accounting
Applied Languages
Applied Statistics
Archaeology
Architecture
Basic Education
Biomedical Engineering
Communication Sciences
Communications Engineering
Computer Science
Culture Studies
Economics
Education
Environmental Sciences
European Languages and Literatures
Fashion Design and Marketing
History
Industrial Electronics and Computers Engineering
Industrial Management and Engineering
Informatics Engineering
Information Systems and Technologies
International Business
International Relations
Law
Management
Marketing
Materials Engineering
Mathematics
Mechanical Engineering
Music
Nursing
Oriental Languages and Culture
Philosophy
Political Science
Polymer Engineering
Portuguese and Lusophone Studies
Psychology
Public Administration
Sociology
Textile Engineering
+
Applied Biology
Applied Chemistry – Specialization in Plastic Materials
Biological Engineering
Geography
Medicine

Well, let's thing this over!

1. **There is evidence that the set of Studies of 'What Is Out There' is growing smaller and smaller every year, every decade, every century.**
2. **This is, of course, a remarkable situation and, indeed, a paradox: If we know so much about Nature, and if our Science is so damn good, how is it possible to explain the huge amount of sciences dedicated to studying Man-made issues and the diminishing of the relative number of sciences devoted to What Is Out There?**
3. **Bias? Sample error?**
4. **No. There is another explanation:**

Human beings are not really interested in Nature and in knowing what there is out there to be known. People say that knowing is a noble activity, a clear sign of intelligence, and a most precious blend of ethics and rationality. They <u>say</u> it and, clearly, they don't <u>mean</u> it. Otherwise, people would engage in studying natural sciences, and this is, plainly, not true. Indeed, not true at all.

The trend, if there is one, is the rise of Engineering in all its forms. As I see this process unfolding, we keep the time-honored names of our sciences (Psychology, Neurosciences, Medicine, and all the rest) but the spirit is completely different. Now and in the near future we must add the word 'Engineering' to get a precise picture of what is going on in the very core of our sciences. As a matter of fact, the way science knows its objects depends very heavily in altering the given, the initial set of conditions: we alter because that's the only way we have of knowing something. We know in the precise measure that we alter.

Saying this from another point of view. We really don't know if what we know about WHAT IS OUT THERE is in fact the real thing. It is impossible to say for sure.

Every average philosopher or scientist interested in the philosophical interpretation of science can put forward a small list of standard arguments about the ultimate impossibility of knowing everything there is to now about the smallest object around us. I don't want to repeat, as far as I can to avoid this, the arguments of other philosophers. Trying to find a few ideas about how our knowledge about this is always imperfect is a rather common activity in any philosophy class.

Let me offer you just a few ideas about this impossibility of knowing in full the simplest object around us:

1. **I name my first argument the 'Copernicus' backyard'. One is always saying and believing that science is successful because we know more and more areas of the universe around us. We can check this progression retrospectively, choosing arbitrarily a past epoch or date to compare our knowledge with. I do this exercise with the Copernicus epoch. We know so much more about the universe than Copernicus or his age did know! However, this huge amount of knowing can, as a matter of fact, be completely irrelevant. We can even know a billion times more about the universe and still not knowing enough about it and our role in it. If, for instance, the universe turns out to be infinite, it's completely irrelevant the difference between our scientific knowledge and the Copernicus's understanding of the world. What am I saying, really? Just this: we're always inside some version of Copernicus' backyard. Period.**

2. **The remarkable Hungarian and American physicist Eugene Wigner addressed this problem of the human knowing of nature in his unforgettable 1959 motto about «the unreasonable effectiveness of mathematics in the natural sciences». Wigner's words testify for an awesome optimism about science. His optimism is based on the conviction that human rationality has found the right language to describe the world, mathematics. Let me keep a long argument short. Wigner's incredible words are biased by his love of science and, as a matter of fact, are mistaken. Mathematics is so creative as painting and literature. It creates many concepts every year, maybe thousands new concepts every months. Circumstantially, a dozen of this new concepts can describe precisely or with a reasonable amount of precision a process or an object or a relation. This is not much indeed. We don't know the mathematics of what is most relevant around us: the very essence of objects, subjective experiences, the very cognitive tools we're thinking with, our beliefs, and so on. Mathematics is very poor. It selects a few parameters and tries to understand relations. The realm of quantity is, obviously, not everything there is.**

3. **My favorite argument about our difficulty of knowing ultimately everything there is to know about even the common things around us is drawn from an engineering of communication problem: the width of the communication channel. The young American physicist, Ben Schumacher, and the Danish philosopher of mind, Tor Norretranders, draw a beautiful scenario about a poor student without a single penny to call his mother to tell her he's OK. Because they're poor, they combine the following: Saturday afternoon, between 5 and 6 p.m., if the phone doesn´t ring, the student is alright. Let's imagine one common scene in their living room during one of those Saturday afternoons. His mother is with her friends drinking tea and eating cookies. From the point of view of one of his mother's friend, the living room is as it has always been. The mother's friends don't know the telephone ring agreement between mother and son. They can make a precise description of the living room. However, even the most precise description seems incomplete because it misses the ultimate meaning of the fact that the phone doesn't ring. If we invite, let's say, a group of Nobel Prize physicists and ask them to make the most precise description of the living room, even with this huge amount of brain power, we're still unable to get the most important fact about what is going on inside that living room Saturdays afternoons. That's incredible! A complete picture of the world or of a part of the world is not enough! Why? Because there's MEANING in that situation that remains outside the description. The fact that the phone doesn't ring, in that situation, is completely different from another fact in that a regular phone doesn't ring.**

   Change places with the characters of this Schumacher's and Norretranders' story. You, as bright young scientists, are trying to get a precise picture of a small part of the biological world, be it pigeons, mice, neurons, genes, neurotransmitters or whatever you are studying. Imagine that you win the most appreciated jackpot of research: getting a clear picture of an object you're interested in, a relation or a property. What can one say when we compare your cleverness with this story about meaning inside situations? Just this: because we're unable to integrate meaning into descriptions, our descriptions are incomplete, even if they seem complete. It's a terrible state of affairs, isn't it?

   There is an interesting debate in America today between Evolutionists and Intelligent Design authors. I'm clearly on the side of Evolutionists. However, as I do like to be unbiased, I read the arguments putted forward by William Dembski and others. I was very surprised when I learned about similar arguments from the Intelligent Design authors. For instance, they say that, even if we get a good description of the Darwinian process, that's not enough because possibly there are other interesting meanings hidden inside that process that we're unable to notice, to describe or to quantify.

There are many other arguments about the way scientific knowledge works or doesn't work. They're called epistemic arguments. I found them very important.

Notwithstanding this, let me introduce you with another set of arguments concerned with the very essence of science, not just with the epistemology of science.

1. **There is a strange addiction of human rationality: human beings love to know what there is around them. We're natural scientists or so it seems. We say we're researching rationally something but we don't know *why* we love to research or to know what is around us. We're hostages to this addiction, we're not masters of it; we're addicted to it.**

2. **Scientists love to say that, about religious matters, they're neutral, or rephrasing these words, they're materialists or naturalists. I don't believe this is the case. The addiction of intelligence to knowing nature around us, the shear pleasure that we draw from the insightful understanding of a natural process show that scientists are worshippers of WHAT THERE IS, they care about WHAT THERE IS, they're always trying to map the minutest details of WHAT THERE IS. To me, this kind of behavior seems very religious. We're dealing here with words. I say in neutral terms 'What there is', but I could say otherwise: scientists are trying to know CREATION and to grasp the hidden meaning of the MAKER of everything. The addiction to know is not a rational issue we can explain or unfold. You can major in Medicine or Neurosciences but there isn't a course that instills inside you the propensity, or addiction, or love for what there is.**

3. **Scientists, from this point of view, are slaves of what there is. You, undoubtedly, recall your History classes. Romans took the Greeks as their most appreciated professors. The Greeks were bright and intelligent; notwithstanding this appreciation, they were slaves. SCIENTISTS, likewise, ARE OUR GREEK SLAVES.**

Let's return to our initial courses' catalogue. How to interpret the relevant difference between studies of MAN-MADE ISSUES and studies of WHAT THERE IS?

1. **I think that the scientific addiction to what there is must end. An addiction is an addiction. It seems noble but that's because in earlier stages of human development to know the environment around us was the main recipe to survive. I can't possibly to understand why someone wants to comprehend the work of our Maker. We're nothing in that world, less than slaves. We must end this addiction of knowing. Scientists are the most conspicuous signs of this unfortunate addiction.**

2. **How can we end this addiction and do much better than science?**

3. **In this world of ours there is a better deal (using business words) in town. Much, much better than trying to understand what there is, is to create ourselves the worlds we want to create. Why to be a slave when one can be the master? Science is a human species' childhood pathology. We play with scientific instruments in our labs as kids play with their toys: both sets of persons are hostages to a frail condition. We can do much better than this: we can be full persons and not just addicted kids as scientists.**

4. **We're very lucky because we're the current witnesses of a growing changing of this state of affairs. We're living in a remarkable world where, alongside the scientific enterprise of trying to know what there is, we're outpacing Creation and we're living in a universe that is of our own making.**

5. **Please, don't accept my words for its facial value. Do your own calculation! Our daily life meets very seldom a natural event that disturbs our lives. Our lifespans are, in great measure, the result of human history. The vaccines inside our veins, the houses we're living in, the prosthetic devices we're making, well, almost everything around us is man-made. This is a clear trend. We're freeing ourselves from the ancient slavery to nature. In this new world, the time will come that we no longer need science. Then, we'll end this childhood pathology of our intelligence named Science. We'll be Engineers of Everything. That's the ultimate pleasure of a rational human being; this means to be much better than our father.**

How to live in a world without Greek Slaves, without Science? Our current addiction to science is statistically irrelevant. The number of working scientists is not big when compared to other human activities. Of course, science has a powerful advertising machinery that inflates its results and demands new slavery victims to its cosmovision. In each epoch, what is the content of the education system is what the kids' parents deem most worthy. In our own epoch, what is deemed as the most worthy of an education is science. This is unfortunate to all of us. When we open the door of science, we close an infinite number of other doors.

There are many other ways of making a living. We can thrive without this addiction because we've made the cultural history of our own addiction. Everybody knows that the scientific outlook is dated, has authors and has fought against other ways of seeing the world and being in the world. Science is one part of our Greek heritage and it's the very essence of being Western. This planet had known many others forms of being a human being. The current growing of science remembers cancer: when it makes itself evident, it's too late to think otherwise, it's too late even to have nostalgia or longing for a different way of living.

1. **Well, what can be done? In order to free ourselves of this Greek slavery, we must to know its history. Knowing the history of science has the powerful effect of one understand that this kind of activity is not the unique one, is not natural indeed, is not compulsory, and, of course, that it's possible to live differently, I mean, to live as a master and not as a slave.**

2. **I spoke many times about our becoming Engineers of Everything. I'm unable to think about a single issue that is conceptually impossible to think about as an activity of engineering. Nowadays, a few aspects of our lives remain untouched by engineering. Think, for instance, in our mental and emotional lives. Well, we're doing incredible thinks with our brains and minds and I sure we'll see very soon in mental and brain issues what we have when we're going into a supermarket: we can buy whatever we want. Maybe in a near future we'll be able to buy other cognitive skills, other perceptual abilities, for instance. We're natural builders. If we can build a house, why not build an entire brand new universe to live in? (As a matter of fact, it's possible that we are already the Creator of this very universe… What proofs there are that is was done by Someone else? We're the only intelligent creatures known in this universe. Maybe that's why it's irrelevant to try to understand what there is: we're already the Maker.)**

3. **One of the most insidious myths that science has propelled is that its outlook is conspicuously different from, let's us say, the religious way of being. Scientists have their rationality; worshippers have their beliefs. In Western countries, theology and contributed positively to the process of naturalization of the world. Perhaps, it has contributed even much more than science to**

the naturalization of our daily living. Theology fought heavily and militarily against endemic religious practices all over this Europe, namely shamanism. Our current world religions are very monotonous because all look like the same; they have a common enemy: the direct contact with the supernatural. One of the most precious allies of Science has been Theology. What was the result of their common efforts? The naturalization of the world. As our lives became more and more, let's say the world courageously, natural, we departed ourselves from the bondage of what there is. In order to become ever more free, we must increase the pace of naturalization. We must naturalize everything, i.e, to deprive everything of its aspects of unnaturalness. We must end conscience, naturalizing conscience. We must end love and reproduction, naturalizing love and reproduction. Are there good news on the horizon? Yes, there are: nowadays we're doing precisely this – naturalizing every aspect of human life, be it religion, sexuality, cognitive structures, altruism and cooperation, you name it.

4. **Finally, there is a way of being that is better understood when we free ourselves from the myth that rationality is the highest level of our mind. The very essence of our intelligence is politics. We act better than we think and, obviously, much better than we understand. The bone and blood of our intelligence is political, not rational. Science has biased our own understanding claiming that rationality is the noblest part of our condition. I hope that, after these thoughts of mine, you, bright and remarkable young researchers, think otherwise.**

Thank you for your attention

MC

Here's an invitation for more about all this:

Manuel Curado, *Luz Misteriosa: A Consciência no Mundo Físico*. [Mysterious Light: Consciousness in the Physical World] Famalicão: Quasi, 2007.

Manuel Curado, «Os Desafios das Ciências da Mente», [The Challenges of the Sciences of the Mind] in Daniel Serrão e Michel Renaud, eds., *Natureza e Ética: Desafios Constantes aos Homens*. Porto: Instituto de Bioética da Universidade Católica Portuguesa, 2008. Ver: http://hdl.handle.net/1822/7653

Manuel Curado, «Infidelidade», [Infidelity] in Ana Gabriela Macedo e Eduarda Keating, eds., *Silêncio e Memória Cultural. Actas dos VII Colóquios de Outono*. Braga: Centro de Estudos Humanísticos, 2007.

Manuel Curado, «O Futuro da Psicologia», [The Future of Psychology] *Pessoas e Sintomas*, 2 (Julho 2007), pp. 43-47. RepositoriUM http://hdl.handle.net/1822/6629

Manuel Curado, «Um Dia Livre», [One Free Day] *Retratos: Revista de Educação*, 2 (Dez. 2006), pp. 11-15. RepositoriUM http://hdl.handle.net/1822/6630

Prof. Manuel Curado
Universidade do Minho
Instituto de Letras e Ciências Humanas
Campus de Gualtar
4710 - 057 Braga
Portugal
Telefone: +351253604170
Fax: +351253676387

Email accounts: jmcurado@ilch.uminho.pt,
curado.manuel@gmail.com



GABBA: Ethics, Science & Society
IBMC 28/4-2/5 2008

When	**What**	**Whom**
Monday 28/4	**Main auditorium**	
9.30-11	Introduction Group assignments are distributed	Anna Olsson, Júlio Santos, Ana Pêgo
11.00-12.30	Philosophy of science	Manuel Curado
14-15.30	Science, technology and society	Tiago Santos Pereira
15.45-18	Science communication	Júlio Santos
Tuesday 29/4	**Main auditorium**	
9-11.00	Ethical aspects and clinical cases genetic testing (lectures)	Jorge Sequeiros Alice Lopes
11-14.30	Group assignments	
14.30-16.00	Bioethics	Ana Sofia Carvalho
16-18.30	Group assignments	
18.30 Deadline Abstracts + Press release		
Wednesday 30/4	**9-10 Auditorum B; 10-13 Main auditorium**	
9-10	Animal and environmental ethics	Anna Olsson
10 -13.00	Science communication (discussion of abstract and press release)	Júlio Santos
15-17.30	Group assignment	
Thursday 1/5	**Bank Holiday**	
Friday 2/5	**Main auditorium**	
9-11.30	Panel debates	Anna, Júlio, all interested
Friday	*Noon*	*Seminar*
14-16	Legal and ethical issues in research with human subjects (lectures)	André Pereira