

Report on the Centre for Philosophy of Science of the University of Lisbon

CFCUL

International External Committee

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The External Committee arrived on the premises at 10:00 on 15 December, 2017. The visit comprised two parts, each lasting about 3 hours, and ended shortly after 17:00.

- The first part was chaired by the Centre's present director prof. Rui Moreira, and included a large sample of the Centre's members, in particular representatives of the various component groups, as well as the former director Prof. Olga Pombo.

- The second part was devoted to an extended discussion between a group of about 25 PhD students and postdocs, on the one hand, and the External Committee, on the other, in the absence of the other members of CFCUL.

The first part of the visit in turn consisted in two phases. First, the Centre's director and former director provided an overview of the major events since the Committee's last visit. Second, leaders or representatives of the six research groups reported on the achievements and prospects of their group.

It must be noted however that the visit was not as well organized as in 2011 and 2013. The information provided to the Committee was not as complete and systematically presented. In the end, nonetheless, all of the essential elements needed for a serious appraisal were made available to the Committee. The Centre's website was also helpful in that respect, having much improved over the years.

The following report will thus comprise four parts:

- (a) The general issues as presented by the Centre's director.
- (b) The reports of the five research groups.
- (c) The meeting with the students and post-docs.
- (d) Conclusions and recommendations of the External Committee.

a. General issues

The Centre's former and present directors informed the Committee of a series of important recent events :

1. The restructuring of the Centre around 3 research groups.
2. The retirement of the Centre's founding director Prof. Olga Pombo, succeeded by Prof. Rui Moreira, of the Faculty of Science, member of the Centre since the beginning.
3. The consolidation of the Centre's relations within the University, taking advantage of the recent fusion of University of Lisbon and the Technical University of Lisbon.
4. The essential role played by the FCT Doctoral Programme.

Regarding the restructuring. The reorganization of the Centre's research groups went through two steps:

- a. In 2014, there were six groups: Unity of science, Philosophy of natural science, Philosophy of life sciences, Philosophy of human sciences, Ethics and politics, Science and Art, Philosophy of mathematics.
- b. In 2015, following the recommendations of the last external committee's report and the request of FCT, the six groups were reconfigured into five groups, to which three interdisciplinary Thematic lines were added. The five new groups were: (g1) Epistemology and methodology, (g2) Philosophy of natural science, (g3) Philosophy of life sciences, (g4) Philosophy of human sciences, Ethics and politics, (g5) Science and art; while the Thematic lines were: Unity of science and interdisciplinarity, Philosophy of human technologies, Science-Art-Philosophy Lab.
- c. In the project for the 2018-2022 period, there are just three groups and one Transversal research line. The three groups are
 - (G1) Epistemology and methodology, which like the previous group, comprises Logic and methodology, Philosophy of mathematics, Evolutionary epistemology, Science and communication.
 - (G2) Natural sciences, which combines the previous second and third groups, comprises Philosophy of quantum physics, Emergence and relational metaphysics, Philosophy of biology and medicine.
 - (G3) Technology, Art and Society, which comprises Philosophy of human sciences, ethics and politics, Science and art as well as two previous Thematic lines: Science-Art-Philosophy Lab and Philosophy of human technologies
 and the Transversal research line is "Interdisciplinarity, theory and practice in the life sciences, art and humanities", which comprises the previous thematic line "Unity of Science and Interdisciplinarity".

The new structure will facilitate interactions and improve the overall methodological and epistemological coherence, while holding on to the benefits of the former transversal interdisciplinary thematic lines.

It is to be noted that during this period of restructuring, the scientific productivity of the Centre has actually improved since 2015: the number of research contracts, integrated PhD researchers and publications has notably increased in 2015 and even more in 2016 (see Annex).

Regarding the change of directors, the transition appears to be smooth, and may strengthen the ties with the Faculty of Science.

Regarding the Centre's relations to other faculties: Within the University, the various faculties will now have a privileged link with the new Group G3. The Centre is also planning to establish further links with other universities in the country and abroad; indeed, it has partnerships in European submissions with some outstanding institutions (Université de Louvain, London School of Economics, Maison des sciences de l'homme in Rennes, France, UNED, University of Zurich, University of Köln....).

Regarding the Doctoral Programme: This FCT Doctoral Programme, the only one in philosophy, fully funds 4-year scholarships for 5 entering PhD students per year. The Centre recruits candidates from all universities in Portugal, on an open call basis, the supervisors need not belong to the Centre or to the University of Lisbon. This programme allows the Centre to play a strong role in the field of philosophy of science at the national level.

Next, the Committee was told about the recent development of the resident journal *Kairos*: it has ceased its printed edition but is now available online.

Finally, the issue of funding was presented by Joao L. Cordovil, a post-doc who is a member of the Executive Committee. For the 2015-2017 period, the Centre received €350000, nett of the 20% charged by the University for the premises and administration costs. A decision was made to provide for 4 post-doc positions, which were filled following an open call. Together with the salaries of two secretaries, €213000 were spent on human resources, leaving about €25000 for the Centre's general operations, and €111000 equally divided between the five research groups.

b. Open presentations of the activities of the component research groupsEpistemology and methodology

Prof. Antonio Zilhao presented the main activities of the group, the direction of which he took over from Prof. Olga Pombo in April 2016.

- The Philosophy of mathematics team was revived with the arrival of three young and productive researchers.
- The Logic and epistemology regular seminar started in 2014. Its theme is Reasoning; 10 sessions have been held to date.
- The Evolutionary Epistemology team is very active: three books have been published, as well as a special issue and numerous papers; an OUP handbook is under preparation.
- A number of conferences were organized during that period:
 - o Commonsense and science and technology, convened by Jorge Jesuino;
 - o Third Lisbon International Conference on Philosophy of Science: Contemporary Issues, convened by the Centre as a whole, with prestigious keynote speakers such as Elliott Sober;
- Some research projects were submitted to European calls:
 - o Evolution and rationality : Evolution of rational choice (pending)
 - o Neurophilosophy: Neuroethics (with Institute of Portuguese Neuroscience, Centre for the Philosophy of Law in Louvain, Ottawa) (rejected for administrative reasons)

Among the group's projects for the coming period, Prof. Zilhao mentioned the following:

- the Reasoning seminar will continue;
- the Evolutionary Epistemology group has submitted an ambitious proposal to FCT in May 2017, in collaboration with the Philosophy of biology and Philosophy of mathematics groups; if successful it will allow the hiring of a full-time researcher;
- a newly formed Science and communication group will be collaborating with a similar group at the University of Amsterdam on issues concerning diffusion of science in developing countries.

Unity of Science and interdisciplinarity Thematic Line

The head of the TL, Olga Pombo, stressed the historical role of the Unity of Science thematic during the constitutive stage of the Centre. The group produced three kinds of output:

- Theoretical work, drawing inspiration from Leibniz and Neurath: Interdisciplinarity is the present name for unity of science. The major determinations of interdisciplinarity have been distinguished: most of them are cognitive, but also include cultural, civilizational dimensions; papers (30) and communications (40) were produced;

- A practical survey was conducted by sociologists of science; interviews of scientists in order to understand the actual functioning of transversal concepts;
- 8 case studies, some in collaboration with Brazilian and Portuguese teams, bearing on areas where interdisciplinarity is active; e.g. on a Brazilian masters program on human rights; on the research Centre; 2 on secondary schools; on cognitive science and neuroscience.
- a book has been submitted to Springer
- 4 workshops were organized, as well as one international colloquium, the annual IASC Congress, on the theme Controversies and interdisciplinarity
- the group is involved in a COST initiative on interdisciplinarity in environmental sciences.

In the coming period, the group will attempt to extend its research on interdisciplinarity, conceived as a mode of functioning within the sciences, to transdisciplinarity which involves interactions between the sciences and other modes of cultural expressions, in the humanities, the arts, etc.

A project was submitted to FCT, the results are pending.

Philosophy of Natural Sciences

- For the physical sciences and the metaphysics of science, Prof. José Croca first presented his team's thematic concerns, including the Bohmian and de Broglie approaches to quantum physics, where he draws his inspiration for his own interpretation. He mentioned his reflections on the uncertainty principles, gravity, space-time and nonlinearity, with applications to the action/reaction principle. The team holds a regular seminar attended by scientists from all disciplines, in which everyone is free to discuss topics in his or her own field.

Then Joao Cordovil gave some indications on his work in the metaphysics of quantum mechanics, where he defends a form of moderate-ontic structural realism, in relation to a new ontological concept of emergence.

- The Sciences of life subgroup was presented by postdoc Silvia di Marco. After Antonio Barbosa's retirement, the group has focussed on
 - Biodiversity and the species problem, with Elena Casetta's important contribution, funded by a 2016 FCT project in collaboration with UK and Mozambique institutions;
 - Biological individuality in an evolutionary perspective;
 - Mutational Lamarckism, as developed by Davide Vecchi;
 - The philosophy of evolution: the consequences of the Extended Thesis for biodiversity.

Among the outputs of this subgroup:

- outreach activities including an exhibition in the Museum of natural history of the University of Lisbon, as well as a popularization book in press (*Gradiva*). An edited book is under contract with Springer;
- an international conference "On the nature of variation" with prestigious keynote speakers organized in 2017.

In the coming years, the subgroup will pursue the theme of biodiversity. The Centre is now a partner within the South European Coordination in Philosophy of the Life Sciences, which includes, among others, the University of Madrid; the Centre will be organizing the 2nd Congress of the Coordination, in 2019. Two international conferences are planned, one on Intentionality (resting on the themes developed by Klaus Gärtner) and on nonselective models of evolution.

Philosophy of Human Technologies

Alex Gerner presented the activities of this Thematic Line. He stressed that Portugal has a strong tradition in the sociology of technology, but not so much in the philosophy of technology. The team's work focuses on the constraint that technology must somehow be articulated to the human abilities, a requirement which requires the philosopher's attention — philosophical problematisation concerns such issues as embodiment, gesturing, the use of diagrams as cognitive tools, the impact of new technologies on public debate, comparative law in the digital area, etc.

The activities of the group include participation in a network with the University of Zurich, involving to date two meetings on neuroscience, clinical, critical theory, the arts, unification of the sciences by cybernetics...

Plans for the future include a network with the University of Köln in view of organizing conferences on the above themes, on a cost-sharing basis (2/3 for Köln, 1/3 for CFCUL). This will be continued not as a Thematic line, but as part of Group G3.

Science and Art, philosophy of technology

Catarina Pombo Nabais presented the activities in this area, pursued both as a Thematic Line and in the present Group 5 — now to be pursued under the new group G3.

She first distinguished the two perspectives developed by the group:

- a more theoretical approach, involving a philosophical reflection on the relation between science and art, including the issue of the ontology of images, and the comparison of science and art as different modes of thought;
- a more hands-on approach, involving collaboration between philosophers, scientists and artists on specific projects.

Three topics in the first perspective have been explored in particular:

1. Body image; gestural diagrams, with the participation of a bioartist;
2. Cartographies of territory; the differences between milieux, frontiers, borders, margins...; a new kind of photography, involving cybernetics; the impact of these technologies on the images of the territory; this has led to the organization of a very large international conference on Deleuze and territory (with over 400 participants);
3. Image and technology, focusing on the place of photography as science of art and art of science, with 2 international conferences organized, one on the 19th century, the second on the 20th century.

Four books have been published. An exhibition organized in 2011 gave rise to the publication of a bilingual book on body on the depth of the skin (an allusion to Valéry). In addition, a large number of activities have been held, including seminars, ongoing workshops, exhibitions, a digital platform to create new images reworked from existing images and allowing the diagrammatic connections between images. This work is conducted in collaboration with the Faculty of Fine Arts. A summer school for high school students was also organized, as well as a series of interviews of eminent thinkers on the very meaning of philosophy.

The Science-Art-Philosophy Lab is concerned with promoting innovative initiatives in which philosophers can actually contribute to artistic creations involving science. The general framework includes a dual perspective: the creative process in art calls for a philosophical inquiry which in turn triggers new creative artistic possibilities and may uncover new philosophical insights.

Finally, an Open Lab has been set up, with the aim of reaching out to non-academic structures such as municipal authorities, social work, citizen involvement etc.

c. Meeting with the students and postdocs

The meeting started at 2:30 pm. As in the previous visit by the Committee, the general purpose of the meeting was to gather a candid opinion on how the Centre is serving the students' and postdocs' interests, on their scientific lives and on their prospects. There were about 25 people in the room, all PhD students or post-doc, no permanent faculty being present. The first part of the meeting consisted in each offering a short presentation of her or his work, group affiliation, source of funding and supervisor for the PhD students, giving rise to brief questions or comments by the Committee. One member of the Committee (DA) knew a few among of the postdocs and had discussed with them on the occasion of the previous visits. However, the PhD students were, of course, new, and there were a number of postdocs and non-tenured researchers as well.

The Committee took notice of the fact that the PhD students come from the doctoral programme of the Centre as well as from the doctoral school of the University.

The diversity of the disciplinary origins and thematics of the PhD still converge on the stable orientation of the Centre towards philosophy of science and interdisciplinarity between sciences. CFCUL's role as a major European centre in philosophy of science, the only one in Portugal entirely devoted to that field and with such a width of interests, is as clear as ever.

The exchanges were very interesting, even, it was felt, to the student and post-doc participants themselves.

After this came an open discussion on general issues. There were three kinds of comments.

Intellectual context. No complaints or critical remarks were voiced concerning the intellectual / scientific conditions: people seemed satisfied with the general atmosphere of the Centre and the framework of exchanges and collaboration.

Employment and status. On the other hand, concerns regarding funding and due process for renewals of employment contract were voiced with some insistence. While the PhD students' status is clear from the start, many if not most post-docs, whether recently arrived or with seniority (sometimes up to 10 years) felt they worked under stress due to the precariousness of their current employment, and the delays often experienced in the confirmation, by FCT, of their status. While the problem is quite widespread worldwide, it seems to be particularly acute for the postdocs at CFCUL: insecurity and uncertainty are the rule rather than the exception. This cannot but affect the general atmosphere. It seems that post-docs with some seniority have a reasonable chance of being offered contracts as researchers, but this is not confirmed as of the time (at the time?) of the Committee's visit, and does not answer the concerns of post-docs with less seniority. Some participants went as far as raising the issue in general terms: FCT should really take into consideration, they felt, the urgent need of improving the employment situation of its post-docs, lest it loses out eventually in the international competition for the best post-docs.

Material conditions. A variety of concerns were voiced under this rubric:

- *Documentation.* The subscriptions to the journals are chosen by the Faculty of Science, which does not give philosophy journals a high enough priority. As for the library of the Faculty of Humanities, it does not belong to the intra-University network of libraries and it is thus impossible for CFCUL scholars, who are regarded in this respect as members of the Faculty of Science, to borrow books
- *Lack of space.* The Centre's offices for researchers are now clearly overcrowded, as 5 to 6 people are assigned to every office. In addition, the lack of a meeting room with sufficient capacity is being felt.
- *Heating.* Due to a technical problem, there is no heating in the part of the building where the Centre's offices are located. This makes it quite difficult for some people to work there during the cold weather. It is to be noted that no such problem affects the twin Centre for the History of Science within the Faculty of Science. It is rumoured that the repair of the heating system does not figure high in the Faculty's priorities.

d. The External Committee's conclusions and recommendation

The Centre has continued to make progress on the various dimensions of its activities since the Committee's last visit.

In quantitative terms, the output is quite impressive, as shown in the table annexed to the present report, provided by the Centre's Executive Committee. The quality is also very satisfactory, judging from a significant sample of publications examined by the Committee, by the venues of some of them, and, as far as the conferences go, by the quality of keynote speakers. The streamlining of the structure, in two steps (2015 and now), is a proper response to a worry expressed by the Committee in its previous reports; the new, 3-group structure which is being implemented for the coming 5-year period is especially welcome. The emergence of a line of work on human technologies is an excellent idea, and the revival of philosophy of mathematics in the hands of three very capable young researchers is good news.

The Committee concludes once again that CFCUL fulfils its missions as a fully interdisciplinary centre in philosophy of science, with a wide scope, a willingness to include a large variety of concerns, and an ability to attract, train and give hope and energy to many students and young scholars, all of which make it quite unique. It has established itself as the main interlocutor in Portugal for the international community.

The Committee strongly emphasizes once again that CFCUL is an essential piece in the national academic structure, and preserving it should be regarded as a top priority.

Alas, the institutional prospects of the Centre are deeply worrying. The senior members of CFCUL are for the most part retired or soon-to-be retired professors. The Committee notes with chagrin and surprise that no progress whatsoever has been made on that count since 2013. It is worth quoting extensively from the last report's first recommendation, dated 5 December 2013:

"The University should make a decisive effort to open permanent positions for the Centre. Given the recent refusal to create a chair in Philosophy of science, it is now **absolutely vital** that at least one, and in the near future 2, **full-time, tenure-track positions** be opened with the right scientific profile (Philosophy of science), so that a younger member of the Centre, or a newcomer, may succeed the present Director after she has retired. **In the absence of such a recruitment, it is the Committee's considered opinion that the Centre will risk entering into decline.**"

Four years on, there is not a single word to retract from this statement. On the other hand, there is something to be added: as far as the Committee is aware, as Professor Pombo's retirement was looming, no attempt was made to ensure her succession, other than appointing Professor Rui Moreira, whose competence is of course unassailable, but who will himself be retiring a year from now. Surely the prospect of *his* retirement should prompt the University of Lisbon to take the necessary steps to secure a position and one or more likely candidates to head the Centre for a long enough period. And again, one director is not enough: a second tenure-track position is needed to ensure that the Centre rests on the firm basis of a 2-man team of fully committed, full-time resident faculty, thus securing a much needed

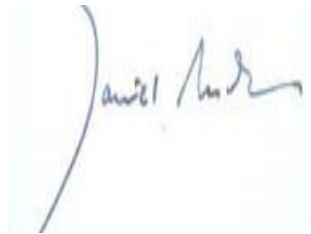
continuity, restoring the confidence of the entire Centre and allowing it to function normally.

In view of the urgency of this problem the Committee has decided to restrict its recommendations to just one:

Considering that the problem of endowing the Centre with a proper faculty basis cannot find a natural solution in the present institutional context (University of Lisbon, Faculty of Science, FCT), the Committee recommends that a mediator with sufficient experience and authority in the Portuguese academic system be appointed jointly by the University and FCT so as to find the means, through negotiations at a high enough hierarchical level, by which a solution to the problem will be found, in due time, *i.e.* before Professor Moreira's retirement.

Lisbon, 16 December 2017.

Daniel Andler

A handwritten signature in blue ink, appearing to read 'Daniel Andler', written over a light blue rectangular background.

Pierre Livet

A handwritten signature in black ink, appearing to read 'Livet', written on a white background.

Annex: Number of publications by members of CFCUL, 2013-2016

Note: This table was provided by the Executive Committee of CFCUL. Figures for 2017 were not yet available.

Productivity	2013	2014	2015	2016
Books and Book Chapters	25	31	56	63
Papers (International Journals)	21	25	44	35
Papers (National Journals)	10	13	8	5
Communications	191	134	169	204
Organization of Scientific Meetings	22	32	81	76