INFORME FINAL DE PROYECTOS DE I+D+i

Como paso previo a la realización del informe, se ruega lean detenidamente las **instrucciones de elaboración de los informes de seguimiento científico-técnico de proyectos** disponible en la página web del ministerio.

A. Datos del proyecto

Relacione los datos del proyecto. En caso de que haya algún cambio, indíquelo cambiando de color el texto

Referencia	FFI2011-28835
Investigador principal	David Teira Serrano
Título	Sesgos en experimentos con humanos en las ciencias sociales y biomedicas
Entidad	Universidad Nacional de Educacion a Distancia
Centro	Facultad de Filosofía
Fecha de inicio	01/01/2012
Fecha final	31/12/2014 (ampliado a 31/12/2015)
Duración	4 años
Total concedido	33.722,70 €

B. Resumen del proyecto para difusión pública

Resuma los principales avances y logros obtenidos del proyecto con una **extensión máxima de 30 líneas,** teniendo en cuenta su posible difusión pública (páginas webs institucionales)

¿En qué sentido puede ser imparcial un experimento? Los ensayos clínicos son experimentos comparativos en los que se ponen a prueba tanto intervenciones médicas (e.g., nuevos tratamientos) como intervenciones sociales (e.g., políticas públicas). Sobre estas intervenciones existen a menudo intereses en conflicto: desde los intereses comerciales de los patrocinadores, a los intereses de los participantes que desean tener acceso a nuevos tratamientos. ¿En qué sentido puede el diseño de un experimento resistir a estas presiones y ofrecernos una prueba imparcial sobre la eficacia de una intervención? En este proyecto, defendemos que un experimento es imparcial si incorpora controles que nos garanticen que el resultado no se contaminará de los intereses en conflicto. Por ejemplo, la aleatorización de tratamientos nos asegura que las preferencias de los experimentadores no determinarán qué pacientes los reciben. Desde un punto de vista epistemológico, hemos defendido que los experimentadores tienen incentivos racionales para ponerse de acuerdo sobre la lista de sesgos que puede afectar a un experimento y los mejores métodos para controlarlos. De otro modo, nadie aceptaría resultados experimentales que no fueran los propios. Desde este enfoque contractualista, hemos examinado como justificar a priori distintos tipos de controles (la aleatorización, el doble ciego, la tabulación de datos) y cómo históricamente distintas comunidades experimentales se pusieron de acuerdo para implementarlos, a pesar de sus intereses en conflicto. Hemos estudiado también hasta qué punto estos controles son efectivos para garantizar la imparcialidad de un experimento y hemos examinado si los experimentos de campo sobre políticas sociales pueden alcanzar la credibilidad de los ensayos clínicos con medicamentos. Nuestros resultados son accesibles a través de http://bit.ly/25Dk9xM

C. Informe de progreso y resultados del proyecto

C1. Desarrollo de los objetivos planteados Describa los objetivos y el grado de cumplimiento de los mismos (en porcentaje respecto al objetivo planteado y, en su caso, con indicación de lo que queda por realizar en cada uno de ellos)	
1) Clarify the concept of experimental bias, drawing on psychological theories and the methodologies implemented in medical and social experiments;	The two papers on the concept of impartiality co-authored by Teira mentioned in the previous report have been finally already published in *Episteme* and *Critica*. Our graduate research fellow, Alex Díaz, left the project (see C3 below), and did not work any further in the pending publications. The goals covered in his thesis will not be completed. Teira has given 2 invited seminar talks in Paris on these topics.
(2) Provide a contractarian justification of debiasing rules in experiments.	Teira's two papers on randomization and blinding are now published in *Philosophy of Science* and *Philosophy of the Social Sciences*. A third paper is accepted in *Foundations of Science*. This goal is 100% accomplished. Teira has given 2 invited seminar talks in Paris on these topics
(3) Analyse the power of different debiasing methodologies depending on the context of the experiment; in particular	Apart from the *Studies C* paper mentioned in our previous reports, Diaz, Teira & Jz. Buedo published a commissioned encyclopedia entry on the history of field trials and quasi-experiments, The two commissioned papers for the Routledge Philosophy of Medicine *Handbook* and the Springer edited volume are now accepted. Teira has given 3 contributed papers, and two invited talks (as keynote speaker in conferences) on the the topic in 2015. The goal is accomplished and the international impact confirmed
(4) We want to study the protection they offer against financial incentives in privately sponsored clinical trials	The paper on disease-mongering by González, Saborido & Teira mentioned last year was accepted for publication in *Studies in History and Philosophy of Science (Part C)*. Another paper, mentioned last year, on the definition of disease by González, together with Hernández-Clemente, is already out as a book chapter with Springer. Teira's paper on targeted therapies trials has been accepted in a Routledge edited volume, *Philosophy of Molecular Medicine*.
(5) We want to elucidate the extent to which experimenter effects are avoidable in social experiments.	This goal has been finally accomplished in two papers: Jiménez-Buedo & Guala (2016) in *Philosophy of the social sciences* and Jiménez-Buedo (forthcoming) in *International Studies in Philosophy of science*

C2. Actividades realizadas y resultados alcanzados
Describa las actividades científico-técnicas realizadas para alcanzar los objetivos planteados en el proyecto. Indique para cada actividad los miembros del equipo que han participado. **Extensión máxima 4 páginas**

Seminar series 2015

We have had a seminar series at UNED on the topics covered by this project (Teira, Díez, Hernández Clemente, Jiménez-Buedo and González have been regular participants). I copy from the project's public log:

- 13/1 Marina Pollán (Centro Nacional de Epidemiología), "Epidemiología del cáncer". Exploring topics of common interest for a potential H2020 grant proposal, led by the European Institute of Oncology which finally did not happen.
- 13/4: Philosophy of Medicine workshop at UNED with J. Sholl (KUL) and M. Lemoine(Tours) on naturalization and medicalization, two of the topics we have been publishing about.

  Jonathan Sholl (KU Leuven),"The Muddle of Medicalization: An Historical-Philosophical Analysis"

  Maël Lemoine (Université François- Rabelais, Tours),"What does it take to naturalize a mental disorder?"
- 7/5: Attilia Ruzzene (EUR) presents her research on the evidence that case studies can contribute to policy-making: to what extent do they provide better evidence than field trials when it comes to the assessment of an intervention?
- 23/9 The placebo workshop: a joint event in Madrid with the History of emotions working group at CSIC, where historians, philosophers and physicians address the explanatory role of placebos in our understanding of pain. We contributed a workshop on the philosophy of placebos:

  Javier Moscoso (CSIC): Introduction – A Short History of the Placebo Effect

  Charlotte Blease (University College Dublin): The Placebo Concept in Psychotherapy

  Marco Annoni (CNR, Italy): Exceptional Lies: The Ethics of Using Deceptive Placebos in Clinical Settings

  David Teira (UNED): Telling Placebos Apart
- 29/11: Is the sort of consumer protection provided by pharmaceutical regulatory agencies like the FDA unique? Or is it a form of risk protection that can be compared to insurance? Pierre-Charles Pradier (Paris I), Insurance regulation
- 27/11: Internal validity in the history of economic experiments: a symposium with two leading historians in the field.

  Floris Heukelom (Radboud U.), A history of validity and deception in economics and psychology

  Ivan Moscati (U. Insubria), Measuring the Economizing Mind in the 1940s and 1950s. The Mosteller-Nogee and Davidson-Suppes-Siegel Experiments to Measure the Utility of Money

Causality in the sciences conference

At the request of the Steering Committee of the Causality in the Sciences series, Maria Jiménez Buedo organized at UNED the Causality and Modelling in the Sciences conference (June 29th-July 1st). The invited speakers were Caterina Marchionni (University of Helsinki), Michael Weisberg (University of Pennsylvania) and Charlotte Werndl (Salzburg University), with 20 contributed papers by international scholars. Weisberg and Marchionni addressed in their talks crucial issues for our project and we got the occasion to present and discuss our views with them all. Maria Jiménez-Buedo is now co-editing a special issue of *Disputatio* with the conference proceedings. For further information see: http://blogs.kent.ac.uk/jonw/conferences/cits/

Reading group

Teira, Hernández-Clemente, Lázaro & María González had a monthly reading group. We had some invited contributors: on 9/4 Violeta Ruiz (CSIC) came to discuss her work on neurasthenia as a predecessor of anxiety (a topic of our recent paper on disease-mongering); on 12/5, we discussed with Olga Mateos (UAM) her forthcoming thesis on narrative medicine.

Talks

- Full list below in C.2

En caso de incluir figuras, cítelas en el texto e insértelas en la última página

C3. Problemas y cambios en el plan de trabajo

Describa las dificultades y/o problemas que hayan podido surgir durante el desarrollo del proyecto, así como cualquier cambio que se haya producido respecto a los objetivos o el plan de trabajo inicialmente planteados. **Extensión máxima 1 página**

Alex Díaz, our research fellow, left the project for a better offer in Portsmouth. Below is the PI final report on his work:

> "El doctorando ha trabajado de modo constante, como se verá en su cv, aunque de una forma un tanto errática. El primer año intentamos desarrollar el proyecto original de tesis bajo mi dirección, con sesiones de supervisión quincenales, y varios textos en coautoría sin resultado -en el único publicado su contribución es mínima. Incorporamos el segundo año como co-director oficioso a Toni Gomila (UIB), con quien redefinimos el proyecto, que es el que presenta en su informe. El doctorando sólo llegó a iniciar la primera parte. Abandona la beca por un contrato de investigación en Portsmouth, sin que haya logrado reunirme con él para discutir su decisión. Lamento mucho no haber sido capaz de encauzar la situación y llevar la tesis a cabo".

C4. Colaboraciones con otros grupos de investigación directamente relacionadas con el proyecto

Relacione las colaboraciones con otros grupos de investigación y el valor añadido para el proyecto. Describa, si procede, el acceso a equipamientos o infraestructuras de otros grupos o instituciones.

Teira had a third visiting appointment for four weeks (June) at the European Institute of Oncology in Milan, teaching a graduate course on clinical trials. On March 2015, Teira also lectured on evidence and field trials in economics (among other topics) as a visiting professor at the Master Épistémologie: méthodes et theories (Université Paris 1, Pantheon-Sorbonne).

On December 7, Maël Lemoine hosted a second brainstorming session at the UFR Medécine, U. Tours, with D. Teira & B. Clarke (UCL) exploring possibilities for a joint proposal. The first draft of the collaboration has been presented in the MUST Conference organized in Munich by Barbara Osimani on the basis of her ERC Starting Grant on Philosophy of Pharmacology

Teira became part of the advisory board of the aforementioned Starting Grant, and was invited to the

first focus group in Munich (March 30th 2016)

In 2016, drawing on previous attempts, we are finally launching a research group on philosophy of medicine at the joint institute of the Escuela Nacional de Sanidad (Instituto de Salud Carlos III) and UNED (IMIENS). Our first initiative has been a European application (INFRAIA-01-2016-2017, INFRAIA-02-2017) led by Bologna, with UNED, Oxford and Oslo to build a digital library for philosophers of medicine.

On June 2015, D. Teira took part as an external examiner of Olga Mateo's PhD dissertation on the medical narratives of patients with cancer brain damage (UAM, Facultad de Medicina). On April 2016, Teira should be external adviser of Jonathan Fuller's dissertation on the philosophy of chronic disease and evidence-based medicine (U. Toronto, Medical School)

D. Teira was member of the Scientific committee of the 15th Congress of Logic, Methodology and Philosophy of Science (2015), where he was in charge of the Philosophy of Medicine section, organizing the plenary lecture and featuring as discussant.

D. Teira has also co-organized the Duhem Lectures on Philosophy of Medicine (Paul Thagard, plenary speaker) for the French Society for Philosophy of Science, on June 10 2015 at the Academie de Medicine (Paris). He also acted as discussant.

He has also been a member of the SC of two more conferences directly related to the projects' topic: Objectivity in Science (Tilburg, 2015). Evidence, Inference and Risk (Munich, 2016)

C5. Colaboraciones con empresas o sectores socioeconómicos

Relacione las colaboraciones con empresas o sectores socioeconómicos y el valor añadido para el proyecto, la transferencia de conocimientos o resultados del mismo.

At the request of the Forensic science Service of the Spanish Guardia Civil (military police) we launched an outreach course ("extension universitaria") on the biases that plague the probabilistic assessment of forensic evidence. The course was funded by a contract with the Guardia Civil (12.000 EUR). The collaboration was extended in 2015.

https://formacionpermanente.uned.es/tp_actividad/idactividad/6875

On 15/4 we hosted a talk by Anders Noorgard, a Swedish forensic expert, on the implementation of Bayesian methods in Swedish forensic reports. Can we overcome the many biases pervading forensic evidence with Bayesian quantification? The talked was broadcasted in streaming to forensic experts all over the country.

C6. Actividades de formación y movilidad de personal

Indique las actividades de formación y movilidad de personal relacionadas con el desarrollo del proyecto. Además, si procede, las actividades realizadas en colaboración con otros grupos o con actividades de formación en medianas o grandes instalaciones.

	Nombre	Tipo (becario, técnico, contratado con cargo al proyecto, posdoctoral, otros)	Descripción de las actividades de formación
1	Alex Díaz	Becario	• Seminar series and reading group mentioned above • Regular supervision sessions with D. Teira & T. Gomila for the preparation and conduct of his survey on the replicability of experiments in psychology • On April 30 Gomila and Teira had the last formal supervision session. Alex left the project in May.
2			

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C7. Actividades de internacionalización y otras colaboraciones relacionadas con el proyecto

Indique si ha colaborado con otros grupos o si ha concurrido, y con qué resultado, a alguna de las convocatorias de ayudas (proyectos, formación, infraestructuras, otros) del Programa Marco de I+D de la UE y/o a otros programas internacionales, en temáticas relacionadas con la de este proyecto. Indique el programa, socios, países y temática y, en su caso, financiación recibida.

See C4 above.

D. Difusión de los resultados del proyecto

Relacione únicamente los resultados derivados de este proyecto

D1. Publicaciones científico-técnicas (con peer-review) derivadas del proyecto y patentes

Autores, título, referencia de la publicación…

Papers published in 2015 or accepted in 2014 and still forthcoming

- David Teira, “Does replication help with experimental biases in clinical trials?”, *Philosophy of Science*, submitted.
- David Teira, “Statistical evidence and the reliability of medical research”. In H. Kincaid, J. Simon & M. Solomon, *The Routledge Handbook of Philosophy of Medicine*, London, Routledge, forthcoming (with M. Andreoletti)
- David Teira, “Testing oncological treatments in the era of personalized medicine”, in G. Boniolo & M. Nathan, eds., *Philosophy of Molecular Medicine*, Routledge, forthcoming
- David Teira, “Debiasing methods and the acceptability of experimental outcomes”, *Foundations of science*, forthcoming
- David Teira, M. González-Moreno, “Disease-mongering through clinical trials”, *Studies in History and Philosophy of Biological and Biomedical Sciences* 51 (2015), 11-18 (with C. Saborido)
- David Teira, “Choosing expert statistical advice: practical costs and epistemic justification”, *Episteme* 12.1 (2015), 117-129 (with J. González de Prado)

- David Teira, "Cómo mide el riesgo el observador imparcial", *Crítica* 47 (2015), 47-65 (with A. Heras)
- M. Jiménez-Buedo and F. Guala, “Artificiality, Reactivity, and Demand Effects in Experimental Economics”, *Philosophy of the Social Sciences* 46 (2016): 3-23)
- M. Jiménez-Buedo, “The Last Dictator Game? Dominance, Reactivity and the Methodological Artifact in Experimental Economics”, *International Journal for the Philosophy of Science*, forthcoming.
- Jiménez-Buedo, María and Federica Russo, eds., Special Issue on Causality and Modelling in the Sciences. *Disputatio*, Forthcoming.
- J. Dana, “Comparing physicians’ personal prevention practices and their recommendations to patients, *Journal for Healthcare Quality*, in press (with Atanasov, P., Anderson, B., Cain, J., Schulkin, J.)
- Alex Díaz, María Jiménez-Buedo & D. Teira, "Quasi- and Field experiments". In: James D. Wright (editor-in-chief), *International Encyclopedia of the Social & Behavioral Sciences*, 2nd edition, Vol 19. Oxford: Elsevier, 2015, pp. 736–741.
- María González Moreno Juan Carlos Hernández, “Biological Normativity Beyond Clinical Normalcy”, in E. Giroux et al., eds., Naturalism in philosophy of health, Springer, forthcoming (with Cristian Saborido, y A. Moreno)

D2. Asistencia a congresos, conferencias o workshops relacionados con el proyecto

Nombre del congreso, tipo de comunicación (invitada, oral, póster), autores.

Conferences

We organized a Symposium at the 2015 Conference of the Sociedad Española de Lógica, Historia y Filosofía de la ciencia (Barcelona, July 7): “A crisis of confidence in the experimental social and biomedical sciences?”, with Marjan Bakker (Tilburg) a leading expert on the replicability of psychological experiments as invited speaker. There were also talks by Teira and Jiménez Buedo (on replicability) and comments by Romina Zuppone (U. Barcelona)

- D. Teira, “Disease-mongering through clinical trials” (with M. González-Moreno & C. Saborido), Philosophy of Medicine Roundtable, U. Bristol, 8/2015 | EPSA, U. Dusseldorf, 9/2015.
- D. Teira, “Self-selection and the limits of our debiasing methods”, The Problem of Selection Bias in Biomedical & Public Health Research Workshop, Manchester Metropolitan University, 9/2015 (*Invited*)
- D. Teira, “Statistical Evidence and the Reliability of Medical Research” (with M. Andreoletti): “Causalitá ed evidenza in medicina e in filosofia” workshop, Universitá del Piemonte Orientale 6/2015 (*Invited*)
- D. Teira, "Can we regulate pharmaceutical markets with asymmetric information about treatments?" V Encuentro de la Red esCTS (Madrid), 7/2015

Seminars

- D. Teira, "Regulating targeted therapies: are Bayesian trials the solution?", talk at the Philosophy of Medicine seminar (IHPST, Paris). 23/3
- D. Teira, "Disease-mongering through clinical trials", talk for the Sciences, normes, decision research group (U. Paris IV), 25/3
- D. Teira, “Is it rational to mobilize statistical expertise in public action?”, Séminaire d'Histoire du Calcul des Probabilités et des Statistiques, EHESS (Paris), 4/12
- D. Teira, “Statistical Evidence and the Reliability of Medical Research”, IHPST (Paris), 4/12

D3. Tesis doctorales finalizadas relacionadas con el proyecto
Nombre del doctor, director de tesis, título, calificación, organismo…
F. Molina Artaoloytia, *Estigma, diagnosis e interacción: Un análisis epistemológico y axiológico de los discursos biomédicos sobre la homosexualidad en los regímenes autoritarios ibéricos del siglo XX*, Directores: Francisco Vázquez (UCA) & David Teira (UNED), Tesis doctoral presentada en la Facultad de Filosofía de la UNED, 20 de enero de 2016, Sobresaliente cum laude. Olga Mateo Sierra, *Gliomas cerebrales de alto grado. Aproximación analítica y humanística con introducción del abordaje narrativo*, Director: Juan Carlos Hernández Clemente (UAM), Tesis doctoral presentada en la Facultad de Medicina de la UAM, 20 de junio de 2015, Sobresaliente cum laude.

D4. Otras publicaciones derivadas de colaboraciones mantenidas durante la ejecución del proyecto y que pudieran ser relevantes para el mismo, así como artículos de divulgación libros, conferencias
Autores, título, referencia de la publicación…
• D. Teira, “Experimentos evanescentes”, *Investigación y ciencia* 470 (Noviembre 2015) • A discussion on Radio3: D. Teira, D. Rodríguez Arias (UGr) and Quentin Ravelli (CNRS) meet around the latter's book on the pharmaceutical industrie, *La stratégie de la bactérie* (Seuil, 2015): https://canal.uned.es/mmobj/index/id/25358 • David Teira, "Industria farmacéutica: ciencia y publicidad". Outreach event at "La ciencia en la frontera", a seminar series organized by S. Gómez at the Universidad Complutense de Madrid (17/1) • David Teira, "On evidence and Public interest", a talk on the possibility of a hierarchy of evidence in anthropology, hosted by our A. Diaz de Rada at his research seminar (Dpto. de Antropología Social y Cultural, UNED, 20/1) • José Lázaro, Los sesgos de la subjetividad: La ‘medicina dialógica’ de Rof Carballo, en A. Piñas Mesa (Ed.), *Psicosomática, Medicina y Filosofía. Estudios de Humanidades Médicas en torno al pensamiento de Juan Rof Carballo*, Universidad Técnica Particular de Loja, 2016, 31-40

E. Personal activo en el proyecto

Relacione la situación de todo el personal de las entidades participantes que haya prestado servicio en el proyecto en la anualidad que se justifica, o **que no haya sido declarado anteriormente**, y cuyos costes (salariales, dietas, desplazamientos, etc.) se imputen al mismo

					Si no incluido en solicitud original:		
	Nombre	NIF/NIE	Catg.ª profesional	Incluido en solicitud original (S/N)	Función en el proyecto	Fecha de alta	Observaciones
1	David Teira Serrano	11424673k	Profesor titular	*S*			
2	María Jiménez Buedo	50857209t	Profesora ayudante doctora	S			

3	Francesco Guala	E359707	Professor	S			
4	Jason Dana	44354030 9	Associate professor	S			
5	María González Moreno	00412821V	Profesora colaboradora doctora	N			
6	Juan Carlos Hernández-Clemente	11773286T	Profesor asociado	N	Disease and disease-mongering	4/4/2013	
7	José Lázaro	32.416.511 N	Profesor contratado doctor	N	Disease and disease-mongering	4/4/2013	7
8	Alejandro Díaz	50.122.967 - X	Becario predoctoral	N	Bias in psychological research		8
7	José Lázaro	32.416.511 N	Profesor contratado doctor	N	Disease and disease-mongering	4/4/2013	7

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-En este capítulo solo debe incluir al personal vinculado de las entidades participantes en el proyecto. Los gastos de personal externo (colaboradores científicos, autónomos…) que haya realizado tareas para el proyecto deben ser incluidos en el capítulo de “Varios”.
-Las “Altas” y “Bajas” deben tramitarse de acuerdo con las instrucciones para el desarrollo de los proyectos de I+D+i expuestas en la página web del ministerio.

F. Gastos realizados durante la anualidad

Debe cumplimentarse este apartado independientemente de la justificación económica enviada por la entidad

Se recomienda consultar las instrucciones para la elaboración de los informes de seguimiento científico-técnico de proyectos

F1. Gastos de personal (indique número de personas, situación laboral y función desempeñada)

	Nombre	Situación laboral	Función desempeñada	Importe
1				
2				
Total gastos de personal				

Cree tantas filas como necesite

F2. Material inventariable (describa el material adquirido)

	Identificación del equipo	Descripción del equipo	Importe	Previsto en la sol. original (S/N)
1	Libros	Pharmaphobia: How the Conflict of Interest Myth Undermines American Medical Innovation	52,76	S
2	Libros	Trusting Doctors, Striking beauty	53,77	S
3	Libros	Heuristics and the Law	35,04	S
4	Libros	L'invention d'un médicament	24,97	S
Total gastos material inventariable			**166,54**	

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F3. Material fungible (describa el tipo de material por concepto o partida, p. ej., reactivos, material de laboratorio, consumibles informáticos, etc.)

	Concepto	Importe	Previsto en la sol. original (S/N)
1			
2			
Total gastos material fungible			

Cree tantas filas como necesite

F4. Viajes y dietas (describa la actividad del gasto realizado y las personas que han realizado la actividad). Debe incluir aquí los gastos derivados de la asistencia a congresos, conferencias, colaboraciones, reuniones de preparación de propuestas relacionados con éste proyecto, etc.)

	Concepto	Importe	Nombre del participante	Previsto en la sol. original (S/N)
1	Viaje París del 9-11/06/2015 (Conf. Duhem)	111,72	D. Teira	S
2	Viaje Bristol del 10-12/08/2015 (PhilMed Roundtable)	394,25	D. Teira	S
3	Viaje-Alojamiento Barcelona del 6- 9/07/2015 (Solofici)	553,83	M. Jiménez-Buedo	S
4	Viaje-Alojamiento Barcelona del 07- 09/07/2015(Solofici)	600,64	D. Teira	S

5	Viaje-Alojamiento Helsinki del 5-7/08/2015 (15th CLMPS)	785,94	D. Teira	
6	Viaje-Alojamiento Dusseldorf del 23- 27/09/2015 (EPSA)	1146,44	D. Teira	S
7	Viaje-Alojamiento Tours del 3-7/12/2015 (Proyecto Europeo)	262,04	D. Teira	S
Total viajes y dietas		3.854,86€		

Cree tantas filas como necesite

F5. Otros gastos (describa por concepto; debe incluir aquí, entre otros, los gastos derivados de personal no incluido en el equipo de trabajo indicando la actividad a la que corresponde dicho gasto, así como el gasto derivado de la inscripción a congresos o conferencias)

	Concepto	**Importe**	**Nombre del participante**	**Previsto en la sol. original (S/N)**
1	Viaje-Alojamiento 12-13/04/2015 J. Sholl,	402,58	J. Sholl	S
2	Viaje-Alojamiento 12-13/04/2015 M. Lemoine,	318,61	M. Lemoine	S
3	Viaje-Alojamiento 14-15/04/2015 A. Noorgard	617,17	A. Noorgard	S
4	Viaje-Alojamiento30/04 al 02/05/2015 A. Gomila	129,46	A. Gomila	S
5	Conferencia de A.Gomila el 30/04/2015	100,00	A. Gomila	S
6	Viaje-Alojamiento del 27/06 al 02/07/2015 M.Weisberg	1605,95	M. Weisberg	S
7	Viaje-Alojamiento del 6-8/07/2015 M. Bakker	376,17	M. Bakker	S
8	Viaje-Alojamiento del 27/10 al 1/11/2015 P-Ch Pradier	459,76	P-Ch Pradier	S
9	Viaje-Alojamiento del 26-27/11/2015 I. Moscati	440,66	I. Moscati	S
10	Viaje-Alojamiento del 26-27/11/2015 F. Heukelom	710,21	F. Heukelom	S
Total otros gastos		**5160,57**		

Cree tantas filas como necesite

F6. Total ejecutado (costes directos únicamente)	
Importe total ejecutado durante la anualidad	9.181,97€

F7. Descripción de gastos no contemplados en la solicitud original (si ha realizado algún gasto no contemplado en la solicitud original, justifique la necesidad de su adquisición en este apartado)

G. Gastos realizados desde el inicio del proyecto

Importe total ejecutado (costes directos únicamente)	**27.869,95€**

A Contractarian Solution to the Experimenter's Regress

David Teira*†

Debiasing procedures are experimental methods aimed at correcting errors arising from the cognitive biases of the experimenter. We discuss two of these methods, the predesignation rule and randomization, showing to what extent they are open to the experimenter's regress: there is no metarule to prove that, after implementing the procedure, the experimental data are actually free from biases. We claim that, from a contractarian perspective, these procedures are nonetheless defensible since they provide a warrant of the impartiality of the experiment: we only need proof that the result has not been intentionally manipulated for prima facie acceptance.

1. Debiasing Procedures and the Experimenter's Regress. The epistemology of experimental error often draws on repertoires of error-correction methods used across different disciplines (e.g., Franklin 2002, 6). In this article, we discuss a class of methods used in different experimental settings in order to correct errors arising from the experimenters' cognitive biases. We name them *debiasing procedures*.

The so-called confirmation bias provides an instance of the sort of error these procedures aim at correcting: this bias refers to unwitting selectivity in the acquisition and use of evidence; that is, the agent selects evidence in order to confirm one particular belief or hypothesis, although she does not intend to do it in a biased way and does not realize that she is doing so when it happens. Confirmation biases have been well documented by psychologists in a diversity of contexts (Nickerson 1998), including scientific research. Kevin Dunbar and his team, for instance, have shown how lab-

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Blinding and the Non-interference Assumption in Medical and Social Trials

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Abstract

This paper discusses the so-called non-interference assumption (NIA) grounding causal inference in trials in both medicine and the social sciences. It states that for each participant in the experiment, the value of the potential outcome depends only upon whether she or he gets the treatment. Drawing on methodological discussion in clinical trials and laboratory experiments in economics, I defend the necessity of partial forms of blinding as a warrant of the NIA, to control the participants' expectations and their strategic interactions with the experimenter.

Keywords

clinical trials, field trials, non-interference assumption, causality, expectations, blinding

1. Introduction

Randomized trials are experiments in which we test the comparative efficacy of two different treatments measuring their effects on two groups of people. Each intervention is administered to a group of participants, chosen at

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CHOOSING EXPERT STATISTICAL ADVICE: PRACTICAL COSTS AND EPISTEMIC JUSTIFICATION

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ABSTRACT

We discuss the role of practical costs in the epistemic justification of a novice choosing expert advice, taking as a case study the choice of an expert statistician by a lay politician. First, we refine Goldman's criteria for the assessment of this choice, showing how the costs of not being impartial impinge on the epistemic justification of the different actors involved in the choice. Then, drawing on two case studies, we discuss in which institutional setting the costs of partiality can play an epistemic role. This way we intend to show how the sociological explanation of the choice of experts can incorporate its epistemic justification.

1. INTRODUCTION

Sometimes a policy-maker has to make a decision on the basis of a statistical figure. Calculating this figure is usually beyond the ability of the policy-maker and it is thus commissioned to an expert in an inferential technique. Often there will be more than one expert in a given technique or various experts in different statistical methods to calculate this figure. The epistemic problem in these situations is how the policy-maker can remain a novice in statistics and yet make a justified judgment about the relative credibility of rival statistical experts.

In this paper we will examine how practical facts – concerning both the expert and the novice – may affect the policy-maker's decision and its justification. We will consider Alvin Goldman's criteria for the selection of experts, showing how practical costs impinge on the epistemic justification of such choices. We will argue first that, among Goldman's criteria, the impartiality[1] of the expert is the most influential one in determining whether the expert's advice will be accepted: it does not only justify the choice, from a normative perspective, but it also (partially) explains why, as a matter of fact, certain statistical experts were chosen. The link between the individual interests driving this choice and its epistemic justification is provided by one *practical fact*: the costs of not being impartial (either for the expert or for the novice) are sometimes high enough to compel a choice and, at the same time, justify it.

1 We will consider the advice of an expert *impartial* if his recommendation (e.g. a statistical estimate) is independent from his own personal preferences or biases. Teira (2013a, 2013b) discusses how this independence can be actually warranted.

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Disease-mongering through clinical trials

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ABSTRACT

Our goal in this paper is to articulate a precise concept of at least a certain kind of disease-mongering, showing how pharmaceutical marketing can commercially exploit certain diseases when their best definition is given through the success of a treatment in a clinical trial. We distinguish two types of disease-mongering according to the way they exploit the definition of the trial population for marketing purposes. We argue that behind these two forms of disease-mongering there are two well-known problems in the statistical methodology of clinical trials (the reference class problem and the distinction between statistical and clinical significance). Overcoming them is far from simple.

1. Varieties of disease-mongering

Disease-mongering generally refers to a purported commercial strategy of the pharmaceutical industry, consisting in tinkering with the definition of a given disease (sometimes to the point of creating a new one) in order to promote the sales of one of their drugs. Disease-mongering has been featured prominently in special issues of the *British Medical Journal* (2002) or *Plos Medicine* (2006), although its existence is for some controversial—and it has probably been so for more than four decades, since the earliest discussions about *medicalization* or the more current debates about *pharmaceuticalization* (Abraham, 2009, 2010; Williams, Gabe, & Davis, 2009). The controversy is fueled, of course, by the huge advertising budgets of the pharmaceutical industry and the growing influence of their marketing arms in the drug development process. It starts at its very inception, with identification of the most interesting target patient from a commercial standpoint, and it certainly conditions the way in which clinical trials for drug approval are designed, conducted and published. It is open to discussion though whether the advertising power of the pharmaceutical industry goes as far as some authors claim (e.g., Moynihan, Gøtzsche, Heath, & Henry, 2002; Payer, 1992). For instance, the transformation of a collection of minor medical phenomena into a treatable condition: e.g., turning baldness into a generalized anxiety process (Moynihan et al., 2002), female sexual dysfunction (Lexchin, 2006) into so-called *premenstrual dysphoric disorder* (Moynihan, 2003), or shyness into *social anxiety disorder* (Wolinsky, 2005).

In this paper we want to articulate a more precise concept of DM. We want to show how pharmaceutical marketing can commercially exploit certain diseases when their best definition is given through the success of a treatment in a clinical trial. We will distinguish two types of disease-mongering according to the way it exploits the definition of the trial population for marketing purposes. We are going to argue that behind these two forms of disease-mongering there are two well-known problems in the statistical methodology of clinical trials and overcoming them is far from simple. But let us first introduce the discussion step by step.

Clinical trials are comparative experiments in which hypotheses on treatments are tested, usually with a methodology grounded in

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Quasi- and Field Experiment

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Abstract

Field trials and quasi-experiments are comparative tests in which we assess the effects of one intervention (or a set thereof) on a group of subjects as compared to another intervention on another group of similar characteristics. The main difference between field trials and quasi-experiments is in the way the interventions are assigned to the groups: in the former the allocation is randomized whereas in the latter it is not. We are going to see first the different roles played by randomization in medical experiments. Then we will discuss how controlled field trials, originating in psychology, spread to the social sciences throughout the twentieth century. Finally, we will show how the idea of a quasi-experiment appeared around a debate on what constitutes a valid test and what sort of controls guarantee it.

Field Experiments and Quasi-Experiments

Field experiments and quasi-experiments are comparative tests in which we assess the effects of an intervention (or a set thereof) on a group of subjects as compared to another intervention on another group of similar characteristics. The main difference between field trials and quasi-experiments is in the way the interventions are assigned to the groups: in the former the allocation is randomized whereas in the latter it is not. For more than a century now, there is an ongoing debate about what sort of methodological controls in the comparison warrant causal inferences in such experiments. In particular, it is under discussion in what sense randomized allocations provide superior grounds for causal inferences. We are going to see, in the first place, the roles played by randomization in medical experiments. Then we will discuss how controlled field experiments, originating in psychology, spread in the social sciences throughout the twentieth century. Finally, we will show how the idea of a quasi-experiment appeared around a debate on what constitutes a valid test and what sort of controls guarantee it.

Randomized Experiments

Randomized experiments originate mainly in medicine, where the fair comparison of therapies is well documented centuries ago. As early as in 1662, the Flemish physician J.B. Van Helmont suggested settling a dispute about the efficacy of bloodletting and purging with a randomized allocation of treatments: "Let us take out of the hospitals […] 200 or 500 poor people, that have fevers, pleurisies. Let us divide them into halves, let us cast lots, that one halfe of them may fall to my share, and the other to yours; I will cure them without bloodletting and sensible evacuation; but you do, as ye know […]. We shall see how many funerals both of us shall have." A 1747 test of six remedies for scurvy is considered the first actually controlled trial: conducted by James Lind, a naval surgeon, it showed the superior efficacy of (vitamin-C-containing) oranges and lemons as compared to the other alternatives (against the opinion of both the Royal College of Physicians and the Admiralty). As Iain Chalmers (2006) has extensively argued, randomization originated in comparative experiments as a method for the correction of biases in the allocation of the tested treatments. If randomized, the preferences of the experimenter allocating them would not contaminate the comparison (e.g., assigning her favorite treatment to one particular group of patients). Randomization was just one possible *control* for the selection bias; an alternative one was alternating treatments between patients. Medical experimenters identified many other biases in their tests, developing *controls* for them (e.g., blinding as early as 1784). As it often happens with error-correction procedures in most scientific fields, these debiasing methods were grounded in the experimenters' experience, without any substantial theory to account for their efficacy. In the first decades of the twentieth century, medical trials implementing all sorts of controls were common, but the standardization of the randomized clinical trial (RCT) began only with the 1947 test of Streptomycin, an antibiotic drug, commissioned to Austin Bradford Hill, a medical statistician, by the British Medical Research Council (Teira, 2013a).

Hill relied on the foundations for experimental design developed by the great statistician Ronald Fisher for agricultural research on fertilizers and soils. Fisher used randomization (now explicitly defined on the probability of receiving a given treatment) to ground significance testing: how likely it is to observe an experimental outcome equally or more extreme than the one actually obtained in an infinite series of repetitions of the trial? Randomization secured that the actual allocation of treatments was just one random draw in that series so we could calculate the *p*-value for the actual outcome obtained on the basis of the distribution of all outcomes for every possible allocation. Furthermore, Fisher defended the role of randomization in causal inference: The interference of potential confounding factors could be disconnected from the treatment outcome in a series of replications of the experiment if the allocation was randomized.

Bradford Hill merged these three roles of randomization (debiasing, significance testing, causal inference) in the trial of Streptomycin, establishing the first template for the RCT. The pharmaceutical revolution of the 1950s also brought about the expansion of drug testing, and the template was gradually refined with further debiasing controls (e.g., double blinding) and statistical tools (e.g., power calculations, showing the

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Article

Artificiality, Reactivity, and Demand Effects in Experimental Economics

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Abstract

A series of recent debates in experimental economics have associated demand effects with the artificiality of the experimental setting and have linked it to the problem of external validity. In this paper, we argue that these associations can be misleading, partly because of the ambiguity with which "artificiality" has been defined, but also because demand effects and external validity are related in complex ways. We argue that artificiality (understood as unfamiliarity of the experimental environment) may be directly as well as inversely correlated with demand effects. We also distinguish between the demand effects of experimentation and the reactions that they may trigger and that might endanger experimental validity. We conclude that economists should pay more attention to the way in which subjects construe the experimental task and learn to exploit subjects' reactivity to expectations in their experiments

Keywords

artificiality, experimental economics, reactivity, demand effects, Dictator Game

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Comparing the accuracy of experimental estimates to guessing: a new perspective on replication and the "Crisis of Confidence" in psychology

Clintin P. Davis-Stober · Jason Dana

Abstract We develop a general measure of estimation accuracy for fundamental research designs, called *v*. The *v* measure compares the estimation accuracy of the ubiquitous ordinary least squares (OLS) estimator, which includes sample means as a special case, with a benchmark estimator that randomizes the direction of treatment effects. For sample and effect sizes common to experimental psychology, *v* suggests that OLS produces estimates that are insufficiently accurate for the type of hypotheses being tested. We demonstrate how *v* can be used to determine sample sizes to obtain minimum acceptable estimation accuracy. Software for calculating *v* is included as online supplemental material (R Core Team, 2012).

Keywords Estimation accuracy · Replicability · Statistical power · Improper linear models

Introduction

Research in psychology is currently facing a *quantitative* crisis. Peer-reviewed journals are rife with contradictory findings, potentially attributable to underpowered studies that result in spurious rejection (or acceptance) of hypotheses (e.g., Ioannidis, 2005, 2008; Maxwell, 2000, 2004). Findings of precognition and premonition that have achieved statistical significance and survived peer review (Bem, 2011) have raised the controversial question of when some studies should be believed, while others not. Failures to replicate well-known results have created what some researchers are calling a "crisis of confidence" (Pashler & Wagenmakers, 2012). When evaluating research, how do we know whether our findings are accurate and genuine?

We offer a new perspective on this "crisis" that does not depend upon unreported researcher activities, such as publication bias (Francis, 2012a, b; Ioannidis, 2008) or researcher degrees of freedom (Simmons, Nelson, & Simonsohn, 2011). Nor does our approach concern itself with null hypothesis testing or traditional methods of statistical inference. Rather, we examine the accuracy of parameter estimation for fundamental research designs in psychology. We study estimation accuracy because of its pertinence to the following question: Over repetitions of an experiment, how good are the estimates and how much do they vary? Satisfactory estimation accuracy is a prepotent problem. If one's estimates are inaccurate under reported conditions, it is a moot question whether researcher degrees of freedom have been used or publication bias has occurred. Conversely, if a study is free of researcher degrees of freedom and publication bias, it is still meaningless if estimation accuracy is poor. Put differently, the quality and value of our experimental conclusions hinge upon how accurately population values of interest, such as true means, can be estimated.

We demonstrate that for many areas of psychology, study conditions are such that standard estimation methods, such as sample means and regression coefficients, have unacceptably poor accuracy. We compare these methods against a benchmark estimator we call *random least squares* (RLS). RLS determines the relative values of its estimates at random. That is, RLS yields literally random conclusions about whether data show treatment effects. Yet, for sample and effect sizes common to psychology, we show that RLS estimates the population values of interest more accurately than do sample means or linear regression coefficients. We present a measure called *v* that tracks how often a researcher can expect standard estimation methods to be more accurate than RLS. Under one interpretation, *v* is the probability of

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Organizational Malfunctions and the Notions of Health and Disease

Cristian Saborido, Alvaro Moreno, María González-Moreno, and Juan Carlos Hernández Clemente

Abstract In this paper we develop a systemic-organizational account of the notion of biological malfunction and present the implications of this theoretical model for the philosophy of medicine. We try to ground the theoretical notion of biological normativity, interpreting it as an inherent feature of biological systems. We then develop a theoretical account of malfunctions, based on the adaptive mechanisms of living systems, which explains the ways in which, and the reasons why, a biological trait is malfunctional in terms of current organization. According to our account, the organizational closure – i.e., the web of mutual constraining actions of the material structures on their boundary conditions that collectively self-maintain the whole organization of the system – provides a naturalistic grounding of the concept of normative functions from a systemic framework and constitutes the causal regime in which biological functions (and malfunctions) appear and can be identified. To illustrate this, we consider some significant medical examples. We claim that our definition of biological malfunction provides the theoretical resources for a naturalization of the notion of biological normativity with relevant implications for a naturalist conception of notions of health and disease.

Keywords Malfunction • Normativity • Organization • Health • Naturalism

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