εἶδος 2008
METAPHYSICS CONFERENCE
University of Geneva, Switzerland.
15th - 18th July.

Conference Programme
&
Volume of Abstracts

εἶδος Metaphysics Conference

University of Geneva, 15th-18th July 2008

εἶδος 2008 ~ Welcome

Welcome!

The Department of Philosophy of the University of Geneva and the *eidos* Centre for Metaphysics welcome you to the *eidos* Metaphysics Conference, 2008.

The conference is organised by the Philosophy Department of the University of Geneva (www.unige.ch/lettres/philo/), in collaboration with the *eidos* Centre for Metaphysics (www.philosophie.ch/eidos/), *dialectica* (www.dialectica.ch), and the SNF funded pro*doc programme (http://www.philosophie.ch/prodoc-romand/pr_home.php). The conference is supported by the "Commission Administrative" and the Faculty of Humanities of the University of Geneva, the Société Académique (Geneva), the Marie Gretler Foundation (Zurich) and the Swiss National Science Foundation.

The aim of the *eidos* Centre for Metaphysics is to offer a forum for the philosophical work done in metaphysics at the University of Geneva, connecting it to work in other fields and at other universities. In particular, the aim of the *eidos* Metaphysics Conference is to open up this forum to philosophers from across the world, facilitating collaboration and discussion between metaphysicians on an international scale.

The four-day conference will be devoted to covering a wide range of topics within the area of metaphysics. The conference will be broken down into four main themed sections over the four days: *Time and Change, Modality and Essence, Object and Property*, and *Meta-Metaphysics*. Each morning will be devoted to plenary sessions: a keynote lecture followed by a symposium on the topic of the day. The afternoon will be comprised of parallel paper sessions.

We hope that you enjoy the conference.

Welcome to Geneva!

Fabrice Correia, conference organiser
Amanda Garcia, conference organiser
Jessica Leech, conference organiser
Johannes Stern, conference organiser

εἶδος 2008 ~ Contents

Tuesday 15th July ~ Time & Change

Time		Room
8.15-9.00	REGISTRATION	
9.00-10.30	Time Without Change: The Argument from Contingency **Robin Le Poidevin** (University of Leeds)	MS150
10.30-11.00	BREAK	
11.00-13.00	Symposium on The Passage of Time **Ned Markosian** (Western Washington University) **Kathrin Koslicki** (University of Colorado at Boulder) **L. A. Paul** (University of North Carolina at Chapel Hill) **Brad Skow** (Massachusetts Institute of Technology)	MS150
13.00-14.30	LUNCH	
14.30-18.00	PARALLEL SESSIONS *with 15 minute breaks in between*	
14.30-15.30	Presentism, Genuine Disagreement and the Grounding Problem. **Giuliano Torrengo** (University of Torino)	R150
	The Transcendental Now. **Sven Rosenkranz** (Freie Universität Berlin & LOGOS, Barcelona)	R160
	On Causality: Can Necessary Relations Be Broken? **M.J. García-Encinas** (University of Granada)	R170
	Having *Simpliciter* a Property. **Andrea C. Bottani** (University of Bergamo)	1140
15.45-16.45	Is Presentism Compatible with the Grounding Principle? **Igor Gasparov** (Voronezh State Medical Academy)	R150
	Once Upon a Time: Counterfactual Thinking, Emotion and Tense. **Gina Tsang** (King's College London)	R160
	Determinism, Bivalence, and the Open Future. **Elizabeth Barnes** (University of Leeds)	R170
	The Existence of the Past. **Joseph Diekemper** (Queen's University Belfast)	1140
17.00-18.00	A New Case Against Presentism. **Peter Forrest** (University of New England)	R150
	A B-Theoretic Account of Our Experience of the Present. **Natalia Deng** (University of Oxford)	R160
	The Many Lives of Presentism **Christian Wuthrich** (University of California at San Diego & University of Geneva)	R170

During the breaks complementary tea, coffee and biscuits will be available.
Other refreshments can be bought from the Uni-Mail canteen.

We ask you to make your own arrangements for lunch. There is a canteen in Uni-Mail serving a range of hot and cold food, snacks and drinks, and a number of nearby restaurants.

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Wednesday 16th July ~ Modality & Essence

Time		Room
8.15-9.00	REGISTRATION	
9.00-10.30	Essence and Necessity in Language **Kit Fine** (New York University)	MS150
10.30-11.00	BREAK	
11.00-13.00	Symposium on Essence-Lite Approaches to *De Re* Modality **Daniel Nolan** (University of Nottingham) **Ross Cameron** (University of Leeds) **John Divers** (University of Leeds)	MS150
13.00-14.30	LUNCH	
14.30-18.00	PARALLEL SESSIONS *with 15 minute breaks in between*	
14.30-15.30	Supervenience is Nothing Modal. **Philipp Keller** (University of Geneva)	R150
	Vindicating Thought Experiments about Essences: The Conferralist Story. **Ásta Sveinsdóttir** (San Francisco State University)	R160
	The Contingency of Modal Metaphysics **Stephan Leuenberger** (University of Leeds & University of Geneva)	R170
	Definitely Maybe. **Alessandro Torza** (Boston University)	1140
	Can Forms of Hylomorphic Compounds be Defined Independently of Matter? **Michail M. Peramatzis** (University of Oxford)	1150
15.45-16.45	Global and Strong Supervenience. **Alex Steinberg** (University College London & PHLOX, Berlin)	R150
	Essence and Potentiality. **Barbara Vetter** (University of Oxford)	R160
	Belief in Necessity and Modal Quasi-Realism. **John Divers** (University of Leeds) & **Jose Gonzalez** (University of Sheffield)	R170
	Joint Possibilities. **Manfred Kupffer** (Johann Wolfgang Goethe University)	1140
17.00-18.00	Problems for Contingent Existents. **Michael Nelson** (UC Riverside)	R150
	Non-Essential Necessary Connections. **Roberta Ballarin** (University of British Columbia)	R160
	Modal Expressivism and Metaphysical Pragmatism. **Amie Thomasson** (University of Miami)	R170
	Structuralism and the Reduction of Possibilist Discourse. **Michael Schweiger** (New York University)	1140

εἶδος 2008 ~ Programme

Time		Room
8.15-9.00	REGISTRATION	
9.00-10.30	The Metaphysics and Epistemology of Abstraction **Crispin Wright** (New York University/University of St. Andrews)	MS150
10.30-11.00	BREAK	
11.00-13.00	Symposium: Object and Property: How Related (if at all) **Peter Simons** (University of Leeds) **Ralf Busse** (University of Regensburg) **Joseph Melia** (University of Leeds) **Benjamin Schnieder** (Humboldt University of Berlin)	MS150
13.00-14.30	LUNCH	
14.30-18.00	PARALLEL SESSIONS *with 15 minute breaks in between*	
14.30-15.30	Modal Properties, the Necessity of Identity, and the Identity of Indiscernibles. **Charles Cross** (University of Georgia)	R150
	Universals: Ways or Things? **Scott Berman** (Saint Louis University)	R160
	Is Resemblance a Binary Relation? **Ghislain Guigon** (University of Geneva)	R170
	A New Approach to Answering the Special Composition Question. **Ned Markosian** (Western Washington University)	1140
	New Work for a Definition of 'Intrinsic'. **Suzanne Lock** (University of Sheffield)	1150
15.45-16.45	On Some Graph-Theoretic Counterexamples to the Principle of the Identity of Indiscernibles **Rafael De Clercq** (Katholieke Universiteit Leuven & Fund for Scientific Research – Flanders)	R150
	Inexpressible Properties. **Benjamin Schnieder** (Humboldt University of Berlin)	R160
	Resemblance Nominalism and Truthmakers. **Gonzalo Rodriguez-Pereyra** (University of Oxford)	R170
	Stage Universalism, *Voints* and Sorts. **Marta Campdelacreu i Arqués** (University of Barcelona)	1140
	Two Ways of Having Powerful Properties. **Frank Hofmann & Siegfried Jaag** (Tuebingen University)	1150
17.00-18.00	New Work for a Theory of Bare Particulars: Non-Existent Objects. **Niall Connolly** (Trinity College Dublin)	R150
	The Importance of Relational Tropes. **Friederike Moltmann** (IHPST, Paris)	R160
	The Individuality of Repeatable Artworks. **Fabian Dorsch** (University of Fribourg & University of Geneva)	R170
	Chorology. **Nikk Effingham** (University of Glasgow)	1140
	The Ontological Square. **Luc Schneider** (University of Geneva)	1150
19.45	*Conference Dinner*	

Friday 18th July ~ Meta-Metaphysics

Time		Room
8.15-9.00	REGISTRATION	
9.00-10.30	Carnap's Paradox **Stephen Yablo** (Massachusetts Institute of Technology)	MS150
10.30-11.00	BREAK	
11.00-13.00	Symposium on Metaphysical Questions and the Methods of Metaphysics **Amie Thomasson** (University of Miami) **Karen Bennett** (Cornell University) **John Hawthorne** (University of Oxford) **Thomas Hofweber** (University of North Carolina at Chapel Hill)	MS150
13.00-14.30	LUNCH	
14.30-18.00	PARALLEL SESSIONS *with 15 minute breaks in between*	
14.30-15.30	On the Ontological Commitment of Mereology. **Massimiliano Carrara & Enrico Martino** (University of Padua)	R150
	Metaphysics and Models. **Christina Schneider** (University of Munich)	R160
	Are There *A Posteriori* Conceptual Necessities? **Daniel Dohrn** (Konstanz University)	R170
	Terms and Conditionals Apply. **Paul McCallion** (University of St. Andrews)	1140
15.45-16.45	Ontological Questions and Kinds of Ontological Commitment. **Robert Schwartzkopff** (University of Oxford)	R150
	Intuition in Metaphysics: Seeming is Believing? **Michael Dickson** (University of South Carolina)	R160
	Is An Epistemological Justification of Ontology Possible?: Some Issues Concerning the Relation of Being and Knowledge. **Henning Tegtmeyer** (Leipzig University)	R170
	On Frege's Ontological Definition of Cardinal-Numbers. **Kai Büttner** (University of Zurich)	1140
17.00-18.00	Aggregates and Phenomena. **Hans Burkhardt** (University of Munich)	R150
	Dependence, Constituency and Individuation. **Kathrin Koslicki** (University of Colorado, Boulder)	R160
	Vagueness and Omniscience. **Elisa Paganini** (University of Milan)	R170

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Metaphysics in Geneva

eidos, the Centre of Metaphysics at the University of Geneva, unites four different research projects:

- *Properties and Relations*, a research project funded by the Swiss National Science Foundation (SNF), 2007-2009, director Kevin Mulligan, including six post-doctoral researchers.

  The project is divided into sub-projects: the relation between properties and the things that have then; the philosophy of physics and fundamental physical properties; axiological properties, including the nature of aesthetic value properties and epistemic value properties; and a synoptic project, bringing together the findings of the other sub-projects, to give a comprehensive treatment of properties and relations.

  Members: Fabian Dorsch (Fribourg/Geneva)
  Philipp Keller (Geneva)
  Vincent Lam (Lausanne)
  Stephan Leuenberger (Leeds/Geneva)
  Olivier Massin (Geneva)
  Kevin Mulligan (Geneva)
  Gian-Andri Töndury (Fribourg/Geneva)
  Christian Würtrich (UCSD/Geneva)

- *pro*doc Research Module: Properties and Relations*, part of the pro*doc program "Mind, Normativity, Self and Properties" funded by the SNF, 2007-2010, director Kevin Mulligan, including two PhD students.

  The Pro*Doc is a postgraduate school in philosophy, financed by the Swiss National Science Foundation, common to three Swiss Universities : the University of Fribourg, the University of Geneva, and the University of Lausanne. The programme requires participation in a weekly seminar, which has evolved into the current *eidos Problems of Metaphysics* seminar.

  Members: Akiko Frischhut (Geneva/Nottingham)
  Johannes Stern (Geneva)

- *The Theory of Essence*, the research project of the SNF-sponsored professor Fabrice Correia, 2007--2011, including two PhD students.

  The aim of the project is twofold: first, to propose a theory of essence: a theory which analyses, or at least substantially clarifies this notion and answers certain general questions about it, and second, in the light of this theory, to deal with a certain number of issues or topics where the notion of essence is in play.

  Members: Fabrice Correia (Geneva)
  Amanda Garcia (Geneva)
  Jessica Leech (Geneva)

- *The Formal Ontology of Properties and Relations*, a research project funded by the Boninchi Foundation, 2006-2009, director Kevin Mulligan, including three post-doctoral researchers.

The project aims at the completion of a monograph offering a new perspective on foundational issues regarding the metaphysics of attributes as well as its formal regimentation(s). The ontological discourse on attributes mainly considered is a four-category ontology based on Aristotle's Ontological Square.

Members: Ghislain Guigon (Geneva)
Pierre Grenon (Geneva)
Kevin Mulligan (Geneva)
Luc Schneider (Geneva)

Activities

Over the past year *eidos* has enjoyed a full and varied programme of events. The weekly seminar, *Problèmes de métaphysique,* has been a welcome opportunity for exploration of various issues in metaphysics, as well as providing a platform for a number of talks by *eidos* members and invited speakers. For example, recently we welcomed Alberto Voltolini (University of Modena and Reggio Emilia) to talk about his new book *How Ficta Follow Fiction: A Syncretistic Account of Fictional Entities.*

A number of conferences and workshops have taken place, including our launch conference by the lake in September, a conference on the metaphysics of vectors in Geneva, a conference on structuralism and philosophy of physics in Lausanne, and a recent workshop on Hossack's recently published *The Metaphysics of Knowledge* in Berne. Details of all *eidos* activities can be found at http://www.philosophie.ch/eidos/.

Affiliated members

In line with one of the main aims of *eidos*, i.e. to facilitate collaboration and discussion in and around metaphysics not only in Geneva but across a wide-ranging network, we are keen to maintain links with philosophers in other departments. Thus we are proud to have the following geographically and philosophically diverse affiliated membership.

John Bigelow (Monash)
Kit Fine (NYU)
Carrie Jenkins (Nottingham)
Ingvar Johansson (Umeå and IFOMIS, Saarland)
E. J. Lowe (Durham)
Daniel Nolan (Nottingham)
Gonzalo Rodríguez-Pereyra (Oxford)
Tobias Rosefeldt (Konstanz)
Sven Rosenkranz (Freie Universität Berlin and LOGOS, Barcelona)
Peter Simons (Leeds)
Barry Smith (Buffalo)
Marcel Weber (Basel)
Zoltán Szabó (Yale).

εἶδος 2008 ~ Metaphysics in Geneva

Practical Information

The conference takes place in the university building "Uni Mail", in the south-east corner of the "Plaine de Plainpalais". The address is:

Uni Mail
Boulevard Carl Vogt 102
1211 Genève 4

The plenary sessions and invited symposia will be held in room MS150 on the ground floor, the parallel sessions in the rooms R150, R160, R170, 1140 and 1150 on the two floors just above the plenary sessions.

Speakers in the parallel sessions should aim to talk for about 40 minutes, leaving time for 20 minutes discussion. There will be computers, beamers and overhead projectors available in all rooms. Please just bring your USB.

Access to the university wireless LAN will be available. A conference username and password will be made available on the day.

Contact Details

Conference mobile: +41(0) 78 779 87 61

Please try the conference mobile first. If for any reason you can't get through, other numbers to try are:

Conference Office: +41 (0) 22 379 12 70
Amanda Garcia: +41 (0) 79 822 23 74
Jessica Leech: +41 (0) 78 630 28 00
Johannes Stern: +41 (0) 78 633 25 17

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Conference Dinner

The conference dinner will be held on the evening of Thursday 17th July, at 7.45pm, at *Aux Vieux Grenadiers*, 92 rue de Carouge, 1205 Geneva.
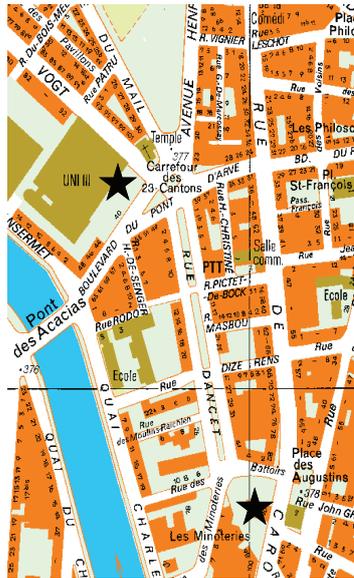
Directions:
The restaurant is just a short 5 minute walk from Uni-Mail. From Uni-Mail, at Uni-Mail tram stop, cross the road. Continue in the same direction along the *rue dancet*. At the end of the street turn left along the *rue des battoirs*, then almost immediately right onto the *rue de carouge*. The first building on the right should be *Aux Vieux Grenadiers*.

Please enter the restaurant via the side entrance from the car park.

Menu

Salade Rouennaise
(Copeaux de foie gras, magret fumé, cerises)

Salad "Rouennaise"
(Slivers of *foie gras*, smoked duck breast, cherries)

~ ~ ~

Filet d'agneau du pays aux baies roses
Pommes château et pleurottes au jus

Lamb with red berries
Potatoes roasted in butter and "pleurottes" mushrooms with gravy

~ ~ ~

Coupe de sorbets

Sorbet

~ ~ ~

Café

Coffee

An alternative vegetarian menu will be available.

A limited amount of red wine and an unlimited amount of water will be provided. If you want something different to drink, please ask your waiter. This will be covered by the price of the dinner within reason.

Please note that diners will have to pay themselves for any drinks they order over the limit of what is covered by the price paid for the dinner.

Information on Geneva

Altitude: 374 m above sea-level
Population: 184'758 inhabitants
Languages: official language French, other spoken languages: English and German

Exchange rate: 1 euro = 1.60 CHF / £1 = 2.04 CHF / $1 (US) = 1.04 CHF. NB: these exchange rates are subject to the variations of the market. The current rate of exchange is available at the banks and in the press.

Exchange offices:
Gare Cornavin, Place Cornavin, 1201 Genève - Open 7/7; Change Cité, Rue du Mont-Blanc 21, 1201 Genève. Open from Monday to Saturday; American Express Int. INC-Aéroport, 1215 Genève. Open 7/7.

Taxis: basic load: CHF 6.30 + CHF 3.20 per kilometre (outside the town: CHF 3.80, nights, Sundays and public holidays: CHF 3,80, 4 or more passengers: CHF 3,80, baggage/animal: CHF 1,50). The prices between the airport and the city vary between CHF 30.- and CHF 35.- because they depend on the traffic and the number of passengers. The price is normally indicated on the taximeter.
Taxi Numbers:
Taxi-Phone Centrale SA Genève : +4122/331.41.33
AA Central Taxi : +4122/320.22.02
AA New Cab SA : +4122/320.20.20 or +4179/449.61.47

Tips: Taxes and services are included in the prices of the hotels, restaurants, and taxis, etc. A tip is thus not essential, but is justified for good service.

Visas: Travelers needing a visa to enter to Switzerland must make sure that it enables them to go back after having visited bordering countries. A valid passport is essential for excursions to France and Italy. Nationals of some countries will have to also obtain visas.

Geneva Transportation Card: All hotel, youth hostel and camping residents in Geneva can benefit freely from this transportation card. This card allows its holder to benefit without restriction from the transportation network in Geneva (TPG, CFF and the little boats called "les Mouettes"). More information is given at: www.unireso.ch

How to get around: The best way to get around in Switzerland is by train. You will find the electronic timetable on www.cff.ch. If you come to Switzerland more than once a year or travel a lot, consider buying a Half-Fare card. It gives you access to reduced fares and costs 150 CHF.

Emergency numbers:
Police 117
Firemen 118
Ambulances 144
Intoxication 145
SOS Pharmacist +4122/420.64.80
SOS Nurses +4122/420.24.64
Found objects +4122/327.60.00

Restaurants for lunch

Il Padrino – Excellent pizzeria
close to "Uni Mail"
41, rue Dancet
1205 Genève
+4122/320.31.04
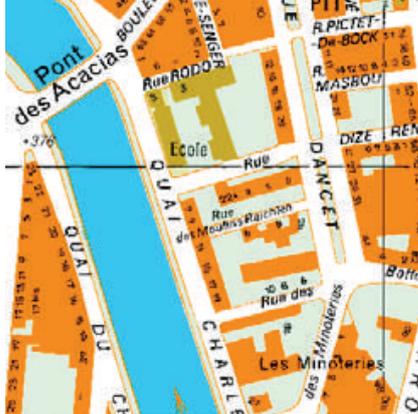
L'Universal – Good salads and
close to "Uni Mail"
26, boulevard du Pont d'Arve
1205 Genève
+4122/781.18.81
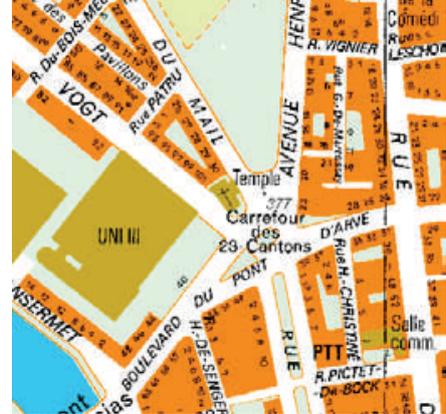
O Sole Mio – Good pizzeria and
close to "Uni Mail"
Boulevard Carl-Vogt 43
1205 Genève
+4122/321.75.07
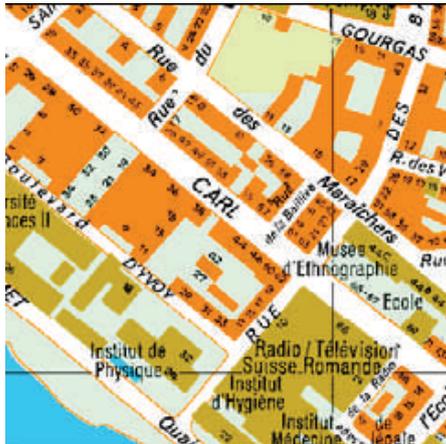
Le Thé – Chinese: a very small
charming Dim Sun place
65, rue des Bains
1205 Genève
+4179/436.77.18

Café Saint Jean – Mexican
4, rue du Vieux-Billard
1205 Genève
+4122/328.34.44

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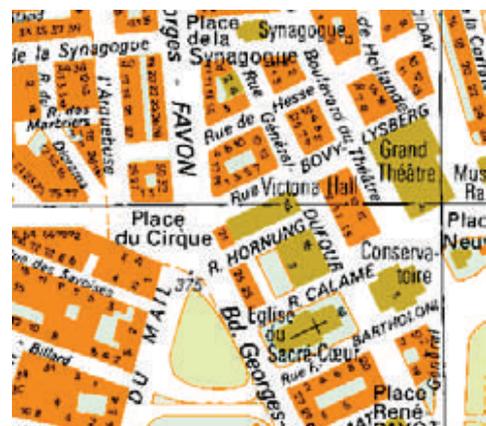
Restaurants for dinner

L'Echalotte – Excellent food and good-value prices
17, rue des Rois
1204 Genève
+4122/320.59.99

Le Milan – Serves excellent pasta and other Italian non-pizza dishes. Close to the railway station Cornavin
9, rue de Chaponnière
1201 Genève
+4122/732.46.65

La Mamounia – Maghreb cuisine
Boulevard Georges-Favon 10
1204 Genève
+4122/329.55.61

Cafes with Wi-Fi Access

Rond-Point – Popular "brasserie"
Rond-Point de Plainpalais
1205 Genève
+4122/320.47.95

Le Remor – excellent ice-cream
3, place du Cirque
1204 Genève
+4122/328.12.70

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Nightlife, Bars, Clubs

Café Art's
Rue des Pâquis 17, 1201 Genève
+4122/738.07.97
Les Brasseurs – Brewery close to the railway station Cornavin
Place Cornavin 20, 1201 Genève
+4122/731.02.06
Le Piment Rouge – Artamis – alternative
Quai du Rhône 14, 1205 Genève
www.aupimentrouge.ch
Café du Lys – close to "Uni Mail"
Rue Ecole-de-Médecine 7, 1205 Genève
www.cafedulys.ch
Le Lola – minimal electro-pop
Rue Richemont 7, 1201 Genève
+4122/731.32.37
Le Baroque – Bar, Lounge, Restaurant
Place de la Fusterie 12, 1204 Genève
+4122/311.05.15
L'étage – Artamis – alternative
Boulevard Saint-Georges 21, 1205 Genève
www.letage.ch
Café Sud – close to "Uni Mail"
Rue Ecole-de-Médecine 14, 1205 Genève
+4122/329.05.50
L'Usine – alternative
Place des Volontaires 4, 1204 Genève
www.usine.ch
S.I.P
Rue des Vieux-Grenadiers 10, 1205 Genève
www.lasip.com
Au Chat Noir
Rue Vautier 13, 1227 Carouge
www.chatnoir.ch

Ideas for Excursions

Geneva has more than forty publics and private museums as well as many art galleries. There are collections of archaeology, ethnography, natural history, art, applied art, science and technology. You will find below some of the main museums. Information is to be found on: http://www.geneve-tourisme.ch – culture.

Musée d'Art et d'Histoire
Rue Charles-Galand 2, 1206 Genève
+4122/418.26.00
mah.ville-ge.ch
Built between 1903 and 1910 and conceived like an encyclopedia, it brings together aspects of all Western culture from its origins to now.
Musée International de la Croix-Rouge et du Croissant-Rouge
Avenue de la Paix 17, 1202 Genève
+4122/748.95.25
www.micr.org

Geneva, the birthplace of the Red Cross, houses the only museum devoted to the work of Henry Dunant. Located opposite to the "Palais des Nations", it was inaugurated in 1988 to evoke the extraordinary adventure of men and women in their humanitarian missions for more than 140 years.

Musée Rath
Place Neuve 2, 1204 Genève
+4122/418.33.40
mah.ville-ge.ch
The Museum Rath is the first of the Swiss Museums devoted to the Fine Arts.

Musée d'histoires naturelles de la Ville de Genève
Route de Malgnou 1, 1208 Genève
+4122/418.63.00
www.ville-ge.ch/mhng
This is the largest Natural history museum in Switzerland. It is also a Genevese cultural meeting-place which is very appreciated particularly by children.

MAMCO, Contemporary Art Museum
Rue des Vieux-Grenadiers 10, 1205 Genève
+4122/320.61.22
www.mamco.ch
Inaugurated in an old factory in September 1994, Mamco exhibits industrial architecture and contemporary art.

Fondation Martin Bodmer, Library and Museum
Route du Guignard 19-21, 1223 Cologny
+4122/707.44.33
www.fondationbodmer.org
This exceptional collection, installed in the middle of Cologny, was the life-work of Martin Bodmer (1899-1971). It is one of the most important private libraries in the world; it reflects the adventure of the human spirit since the origins of the writing. Bringing together 160'000 items in approximately 80 languages, it includes hundreds of Western and Eastern manuscripts, among which is one of the rare specimens of the Gutenberg Bible.

Geneva is also lucky enough to have its very own mountain, **Mont Salève**, overlooking the city. Less than 30 minutes on the Bus No. 8 takes you to the French border at Veyrier. From here, a cable car (Mon-Sat) takes you to the summit, where there are lovely walks up to an uninterrupted view of the Mont Blanc range. There are also some cafes and bars. See http://www.telepheriquedusaleve.com/ for information on timetables and prices for the cable car.

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Volume
of
Abstracts

Time without Change:
the argument from contingency

Robin Le Poidevin

In discussions of the question 'could there have been nothing?', the argument from subtraction has often been appealed to. The central premise of the argument is that the existence of any contingent object is independent of the existence of any other object, and the conclusion that there is a possible world in which there is nothing. A structurally similar argument, which I will call 'the argument from contingency', has as its central premise that whether or not an object is changing is logically independent of whether any other object is doing so, and its conclusion that there is a possible world in which there is time without change. This paper compares and contrasts the two arguments, and attempts to show what is really at stake in the question 'could there be time without change'?

The Passage of Time

Ned Markosian, Kathrin Koslicki, L. A. Paul, Brad Skow

First Brad Skow will present a paper titled "Why Does Time Pass?" in which he offers a new version of the moving spotlight theory of time. Unlike the standard version, Skow's version attempts to explain both why the NOW moves into the future and why it moves at a constant rate. (Ned Markosian will comment on Skow's paper.) Then L.A. Paul will present a paper titled "Temporal Experience," in which she attempts to explain the ontology that underlies the phenomenology of time as something that moves or passes. (Kathrin Koslicki will comment on Paul's paper.)

Parallel Sessions

Session 1

Room R150

Presentism, Genuine Disagreement and the Grounding Problem
Giuliano Torrengo (University of Torino)

In the present paper I argue that there is a (previously unnoticed) connection between two recent topics in the philosophy of time. (1) the "meta-metaphysical" question: is there any substantial difference between presentism and eternalism? (2) the "first-order metaphysics" question: what are the truth makers for presently true past-tensed sentences (a.k.a. the grounding problem)? The conclusion of my central argument is, roughly, that the only (non-reductive) way for the presentist to solve the grounding problem is tantamount to conflate her position with the eternalist's. The paper will be composed of three main sections:

I. What it takes for the presentist and the eternalist to disagree?
Dorato (2005) and Savitt (MS) have recently argued that the distinction between the presentist and eternalist is not substantial. The heart of such "skeptic" arguments lies in the alleged complete intertranslatability of the two theories: if what an eternalist means by saying that "there are dinosaurs, located in the past" is what the presentist means by saying that "there were dinosaurs" (and similarly for analogous sentences), there is no actual disagreement between them, they are just describing in different terms the same reality (the general strategy is well known in the literature - e.g. Dorr 2005, Hirsh 2002, Sidelle 2002, Lowe 2005, see also Yablo 1998). To resist such arguments the anti-skeptics need to claim that both the eternalist and the presentist resort to a fundamental and substantial kind of quantification (Sider 2006). It follows that an anti-skeptic stance of the presentist is not compatible with reinterpreting "there are dinosaurs, located in the past" in the mouth of the eternalist with "there were dinosaurs".

II. Presentist solutions to the grounding problem
What makes true past-tensed true sentences (PTTS)? The eternalist's answer is straightforward: entities located in the past. If the presentist is not a skeptic, she will understand such an answer as implying that there are (in the fundamental sense) things in the past, and thus as in contradiction with her position. The question, thus, concern a matter of fundamental quantification, and the presentist cannot "translate" it in non-committal terms. I review four sorts of answer of the presentist, in order to settle whether they are compatible with an anti-skeptic stance. The reductive approach (Ludlow 1999, see also Smith 2003) locates the truth-makers of PTTS in the present (and thus is compatible). The "quasitruth" approach (Markosian 2004) denies that there are any literally true past-tensed sentences. The "Ersatz" approach (Bourne 2006, Crisp 2005) individuates them in abstract objects somehow "representing" past things. The "deflationary" or "frivolous" approach (Craig 2003, Hinchliff 1996) maintains that the present truth of PTTS needs only that certain things existed.

III. Compatibility with anti-skepticism
Firstly, I argue that the deflationary stance is incompatible with anti-skepticism. Roughly, the deflationist maintains that the grounding question is ill posed; the question she has to answer is rather: what was the truth maker for a PTTS? This implies that she construes a question that the eternalist understands in fundamental quantification terms as not committal. Thus the deflationist is compatible only with skepticism. Secondly, what are the abstract truth makers of the "ersatz" presentist composed of (given that to solve the grounding problem they have to be structured)? If their constituents are entities that existed, but no longer exist, her position and the deflationist conflate. If there are something else, they are truth makers because certain things (which they somehow represent) existed in the past. But if the grounding question is a "because question", she is again interpreting a fundamental quantification question in non committal terms. Finally, past tensed sentences are quasi-truth because something in the past existed, and again the presentist fails to give an answer to the grounding question compatible with anti-skepticism (given that the quasi-

truth strategy does not elude the question at the outset). The conclusion is that only reductionist presentist is compatible with an anti-skeptic stance toward the substantiality of the distinction between presentism and eternalism.

Room R160

The Transcendental Now
Sven Rosenkranz (Freie University Berlin & LOGOS, Barcelona)

For long, the idea that time passes has been considered to be either internally incoherent or irremediably metaphorical, defying any definite statement about whose truth-value one could sensibly disagree. Extant tense-logical treatments face the challenge that they seem to rely on a tenseless metalanguage inapt to accommodate a dynamic conception of time. Here the attempt is made to state the idea of time's passage exclusively in terms acceptable to those who reject it, without using any tensed language or incurring any commitment to tensed facts. It turns out that the passage of time, as thus stated, involves ontological commitment to a singularity. Unsurprisingly perhaps, the proposal is open to a series of prima facie objections which can, however, be defused.

Room R170

On Causality: Can Necessary Relations Be Broken?
M.J. García-Encinas (University of Granada)

The thesis that causality is a relation that holds necessarily between the cause and its effect is a question of philosophical controversy. In this paper I will work under the supposition that causality is a necessary relation, in the sense that, if singular c is the cause of singular e then it is not possible that c occurs and e doesn't. I will study two serious difficulties for this supposition, and argue that both can be sorted out so that the supposition gets strengthened.

The first difficulty is pre-emption. If you are a necessitarian, it is tempting for you to think that, in all cases of pre-emption, either the real cause has been misplaced or the actual effect is another occurrence. However, in late pre-emption, this does not seem to be the case. Consider the falling down of a tree that has been reached by a ray during a strong storm. It is not true that it would have fallen down in all circumstances in which the same causes occur. For there is a possible and exactly similar causal situation except that a black hole affects the atmosphere of the tree, and the tree does not fall down. The non-occurrence of e cannot be explained in terms of a change in the pre-empted cause, for it has not changed. I will argue that, contrary to appearances, the cause of the falling of the tree is absent in the new possible situation. I will argue that a composition of forces is not a compound of summed forces, but a proper individual property. In general, I will maintain, a summing up of quantities is not a compound, but a proper individual property.

A second difficulty is internalization. The core of the Humean doctrine is that necessary relations reduce to logical identity: there is no necessary connection between distinct entities. Necessitarian anti-Humean accounts for causation have been working in two directions: (i) There is a necessary connection, but it is established at the level of types. The presupposition in this paper is, however, that there is necessity at the singular level. (ii) There is room for causal modality at the singular level, but it is hypothetical or dispositional. But the problem with the dispositional view is that causation becomes an internal relation. And the problem with internal relations, as Russell saw, is that they are not real relations: they do not hold between distinct entities. I claim that Russell is right here. So it seems that we must choose: either causation is a necessary and internal relation (no distinct entities, but a world of powers) or causation is a contingent and external relation (the cause could have occurred without its effect). I will argue that, contrary to general opinion, there is logical space for necessary and external relations. Causality could be one relation of this kind. But there could be more: the relation between a substance and its material origin, or the relation between a species and its genus … Against Hume, there can be metaphysically necessary relations between distinct entities in the world.

Having *Simpliciter* a Property
Andrea C. Bottani (University of Bergamo)

Rival theories of persistence disagree in a variety of well-known ways on what exactly happens when something persistent has, had or will have a temporally qualified property, for example, when a book has, had or will have the property of being open-at-8.00 a.m. (I leave aside the question whether the above disjunctive tenses are essential or rather redundant). Indeed, being open at a time can alternatively be treated as the same as:

* having an open temporal *part* that exists at that time;
* having an open temporal *counterpart* that exists at that time;
* bearing the relation of being *open at* to that time;
* having the property of being open in a certain temporally qualified way;
* etc..

Nevertheless, rival theories of persistence all agree that a book has, had or will have the temporally qualified property of being open-at-8.00 a.m. just in case it is, was or will be open at 8.00 a.m.. Disagreement on what temporally qualified properties a persistent entity has, had or will have can thus only be empirical. Not so if we wonder what temporally unqualified properties a persistent entity has *simpliciter*. Indeed, philosophers can disagree on what properties a persistent entity has *simpliciter* (if any), even in case there is no empirical disagreement on the actual history of that entity. The question of what temporally unqualified properties a persistent entity has *simpliciter* (if any) is thus genuinely metaphysical.

Strangely enough, not every theory of persistence gives a clear answer to this question – for example, many versions of three-dimensionalism and four-dimensionalism seem to be rather evasive about it. Theories of persistence that take the question seriously give the following alternative answers.

1. Things in time (among which, persistent entities) can have no properties *simpliciter*. Only entities out of time – for example, numbers – can (Lowe 1998)
2. A persistent entity *a* has *simpliciter* the temporally unqualified property of being P just in case it is open at the only moment at which *a* exists by itself (not through the medium of a temporal substitute) (this is the *Stage view*'s answer: see Sider 2001, Hawley 2001)
3. A persistent entity *a* has *simpliciter* the temporally unqualified property of being P just in case *a* is P *now* (this is the presentist answer: see Zimmermann 1998, Merricks 1999).
4. A persistent entity *a* has *simpliciter* the temporally unqualified property of being P just in case *a* is P at each moment at which *a* exists (van Inwagen 1990).
5. A persistent entity has a property *simpliciter* just in case the object has the property *transcendently*, that is, *regardless* of the time, i.e. regardless of how things are at one or another time (Fine 2005).

I argue against 1) by relying on the assumption that, if something does not have the temporally unqualified property of being P, then it has the property of not being P, which cannot be more temporally qualified than P itself. 2)-4) share the idea that being P *simpliciter* is a matter of being P at one or more particular times. According to 2) and 3), being P at one specific time *t* is tantamount to being P *simpliciter*, provided *t* is the present time (or, alternatively, the only time at which what is P exists by itself). And, according to 4), 'being P *simpliciter*' can be defined in terms of 'being P at a time' roughly in the same way as supervaluationist treatments of vagueness define 'supertrue' in terms of 'true in a precisification'. I argue that all these solutions have very unlikely consequences regarding what temporally unqualified properties ordinary objects have *simpliciter*, and I conclude that there is no way of reducing a temporally unqualified property a persistent object has *simpliciter* to one or more temporally qualified properties the object has, had or will have at particular times. The notion of a property *simpliciter* is thus best conceived of as primitive, in just the same way as the notion of an essential property is conceived of as primitive in Fine's account of essential vs necessary properties (see Fine 1994, 2005). This seems to have negative consequences for the acceptability of some well-known theories of persistence.

Is Presentism compatible with the Grounding Principle?
Igor Gasparov (Voronezh State Medical Academy)

In his *Truth and Ontology* T. Merricks argues that presentism (P) cannot be possibly reconciled with the grounding principle according to which truth is grounded in being (GP). His argument goes roughly as follows:
1. If GP is true then for every truth there is something that truth is about
2. There are some truths about the past
3. If GP is true there is something past truths are about (from 1, 2)
4. If P is true then all there is exists presently
5. Among present existents there is nothing past truths are about
6. If P is true there is nothing past truths are about (from 4, 5)
7. Therefore, P is incompatible with GP (from 3, 6)

In my paper I will argue that the argument fails because the premise (5) fails. Thus, presentism – be it true or false – is compatible with the grounding principle after all.

I agree with Merricks that GP requires that a proposition can be made true only by something the proposition is relevantly about. We can say that if proposition *p* is relevantly about some entity *x* then *p* stands in an aboutness relation to *x*. Further, I accept that there are two different kinds of aboutness. The fist aboutness relation is trivial. For instance, the proposition that *some ghosts are malicious* is trivially about ghosts. But the aboutness in this sense does not require the existence of any ghosts. The second aboutness relation is substantial. For instance, if the proposition *I exist* is about me in the second sense then it requires my existence. GP obviously requires that every true proposition is substantially about something existing. The puzzling question, however, remains what the substantial aboutness amounts to?

Merricks rightly says that it is not always obvious what a proposition is about. For instance, it is not clear whether the proposition *that water is in the bucket* is about H_2O molecules. Nevertheless, sometimes it is clear that a proposition is not about something that necessitates the truth of that proposition. According to Merricks, it is clear that truths about the past are not about presently existing things like abstract times series or Lucretian properties of presently existing objects. Then the kind of presentism which suggests that the existence of such things can reconcile it with GP fails to achieve its aim even if abstract times series or Lucretian properties aren't suspicious and do necessitate truths about the past. Because it is not clear what the aboutness relation amounts to, Merricks suggests that the question whether a truth is about something or not should be decided with the help of intuitive examples. He gives four examples in which something necessitates a truth but the truth is not about its necessitator: (a) 'malignant necessitators' like God's willing that *p*; (b) actual world-bound individuals; (c) an entity is such that *p* is true, but the existence of that entity cannot explain why *p* is true; (d) the state of *p*'s being true. I agree that if presently existing entities which presentist proposes for the role of truthmakers for past truths are like those in (a) - (d) then they aren't that past truths are about and Merrick's argument succeeds. But I think that at least some of presentist's possible truthmaker candidates aren't so.

Suppose that there are necessary states of affairs (NSA). NSAs aren't like God's willing that *p*. They aren't actual world-bound individuals. They are not such that if they obtain or have obtained then they cannot explain why *p* is or was true. And not all of them are like the state of *p*'s being true, because being true is one thing and obtaining of a state of affairs is quite another. All NSAs exist. And there is a comprehensible sense in which presentist could accept them as presently existing. Some of them obtain; some have obtained; some will obtain. If a NSA has obtained then it has a property of *having obtained* which is neither obviously suspicious nor needs to be defined as once being true because with the same right we can define being true in terms of obtaining or take the latter as primitive. Hence, NSAs don't fall under Merricks' examples (a) - (d). Thus, it is not clear that truths about the past aren't rele-

vantly about the corresponding NSAs. But then there is something presently existing past truths can be about and P can be possibly reconciled with GP.

Room R160

Once Upon a Time: Counterfactual Thinking, Emotion and Tense.
Gina Tsang (King's College London)

Arthur Prior (1959) presents an *argument from emotion* as an objection to the *B-theory of time*. The B-theory of time, or tenseless theory, construes all events, whether past, present or future as equally real. Prior examines how our emotional responses to the same event differ depending on the temporal position of the event with respect to an agent. It is claimed that if we endorse such a *tenseless* theory of time then it seems that our differing emotions cannot be accounted for. For example, why is it that I fear my upcoming viva given that it is as equally real as my admission to the PhD? - An event that was feared in the past. Further, why do I feel relief upon hearing that I've passed the requirements for the doctorate? - An event that was once also feared. Thus the singular event of my viva elicits different emotional responses, fear and relief, depending on the position of the event in time (future and recent past respectively) with respect to the temporal position of the agent.

Many B-theorists have responded to this challenge by trying to identify the *object* of the emotion felt concluding that it is the content of my *irreducibly* tensed belief that the event is past. However, the focus of my proposal, regarding the issues arising from Prior's argument, are not ontological in nature. Indeed, there is a further set of unanswered questions arising from this argument to which I hope to provide an answer, namely:

(a) Why does the same event elicit different emotional responses from an agent depending on its temporal position (past, present or future)?
(b) Why do we care more about proximate future pain than about distant future pain?
(c) Why do we care about past pains given that there is little we can do about them?

Counterfactual thinking refers to the process of *imagining* what could have or could be the case. In turn, such thinking elicits certain emotions through many mechanisms including comparison of the counterfactual situation with both actuality and other plausible counterfactual scenarios. For example, by imagining failing my viva (a possible future event) I naturally feel fear. I may allay or reduce such fear by reasoning that this is unlikely and imagine passing my viva (again, a possible future event). However, upon successfully completing my viva (a recent past event) I feel relief as the factual scenario has occurred in which I am now conferred the status of Doctor. As such, it is our cognition of the variety of *possible outcomes* that elicits future-tensed emotions (such as fear and anticipation). In turn, when an event recedes into an agent's past those possible outcomes which are counter-to-fact are no longer considered as live options and past-tensed emotions (such as relief and regret) are felt.

It is important to note that it is not always strictly the case that an agent only has future-tensed emotions to the future and past-tensed emotions to the past. The type of emotion is dependent upon the agent's *epistemic* limitations. I may feel fear regarding an exam of which the results have been published but I am yet to check. Similarly, I may regret something that hasn't actually happened. Further, we can imagine certain events in the past turning out differently and the impact that would have on both our present and future, and in turn experience a variety of differently tensed emotions. As such, the argument from emotion can be seen as not simply referring to the agent's *temporal position* but the agent's comprehension of *possible outcomes* whether relating to past, present or future events. Therefore, I am not taking an 'open-future' stance in denying the reality of the future. I am simply claiming that the agent's epistemic limitations prevent them from identifying which imagined scenarios are factual or counterfactual.

In arguing for an application of counterfactual thinking in response to this argument, I will draw an analogy with our experience of fiction. A given fiction can be regarded as

both a discrete set of events happening before or after each other (when the agent is not engaged in the fiction – *a B-series*) or as a series of events experienced through *reading* a fiction (with the present being the point at which the reader is engaged with a fiction – *an A-series*). Counterfactual thinking can be applied in this case as an explanation for why certain emotions are elicited when reading a fiction. Moreover, it can be shown that unlike in the fiction case, an agent is *embedded* in a temporal perspective and by means of counterfactual thinking specific events elicit certain emotions. The B-theorist views time as the closed book, the A-theorist takes into account the engaged reader. Therefore, despite the reality of all those events contained in the fiction a reader experiences certain emotions through imagining by means of counterfactual thinking. Likewise, whether we assent to the view that all events are equally real or not our differing emotional responses to specific events can be said to be roused through the agent's capacity to imagine counterfactual scenarios.

Ultimately, after suggesting answers to the above questions, I will conclude that Prior's argument cannot be advanced or refuted in favour of either theory of time as the reality or unreality of certain events has little bearing on the emotions elicited by cognitively attending to *possible outcomes* of such events.

Room R170

Determinism, Bivalence, and the Open Future
Elizabeth Barnes (University of Leeds)

This paper is an attempt to disentangle the thesis that the future is open from two theses that are commonly associated with it. Specifically, the central argument of this paper is that the openness of the future is perfectly compatible both with the unrestricted application of bivalence and with deterministic theories of natural laws.

I characterize the openness of the future as the idea that the future is *metaphysically unsettled*: that for any times t and t* such that t* is later than t, the state of the world at t plus the laws of nature does not necessitate the state of the world at t* (or, more strongly, *nothing* at t necessitates the state of the world at t*). Endorsing this claim has, quite naturally, often been taken to have far-reaching consequences. It is commonly claimed, for example, that on open future models future-directed statements lack truth values (i.e., bivalence is rejected for future-directed sentences). Likewise, it is generally assumed that open future models do not allow for laws which are deterministic. Deterministic laws are such that, for any times t and t* such that t* is later than t, the full state of the world at t plus the laws of nature will necessitate the state of the world at t*, which seems in obvious conflict with the thesis that the future is open.

In contrast to these common assumptions, I develop a model for the open future which shows how bivalence can be unrestrictedly applied by the defender of the open future and then, using this model, demonstrate how deterministic laws can be shown to be compatible with the open future thesis.

The model for the open future I develop is supervaluational, but differs from more standard models in the following key feature: determinately only one atemporal representation of the world is correct, but that there is no atemporal representation of the world such that *it* is determinately correct. In this sense, my model is formally analogous to the so-called 'non-standard' supervaluationism of, e.g., McGee and McLaughlin, wherein determinately only one interpretation is intended but it is indeterminate *which* interpretation is intended. Such models famously vindicate the application of bivalence. I show how this model falls out quite naturally from the incorporation, within the basic supervaluational structure, of standard ersatz theories of modality.

With this framework in place, I go on to demonstrate how it vindicates the compatibility of determinism with the open future. This section proceeds in three basic stages. First, I show that determinism is consistent with the openness of the future on any theory of laws according to which what laws there are is determined by what in fact occurs (e.g., regularity theory). Secondly, I argue that the compatibility can also be vindicated for Armstrong-style realism about laws if it could ever be indeterminate what laws there are (something which a belief in the open future could plausibly moti-

vate). Finally, I argue that fully determinate Armstrong-style laws are also compatible with the open future if it could ever be indeterminate what the present state of the world is (something which the open future thesis has little ground to de jure object against, since she is already committed to a kind of metaphysical indeterminacy).

Room 1140

The Existence of the Past
Joseph Diekemper (Queen's University Belfast)

I am a growing universe theorist about the nature of time: I believe that time is fundamentally dynamic, and that the past exists and the future does not. I have argued elsewhere that the other mainstream dynamic theory, presentism, given its doctrine of ontological symmetry, cannot be reconciled with the intuition that the past is fixed and the future is not. Further, I argued that it is essential to any dynamic theory that this intuition about the asymmetry of fixity be accounted for, and that therefore presentism must be rejected. But there is a potentially equally devastating objection to the growing universe theory of time. It is what I call the 'Incoherence' objection. At the root of the objection is the thought that one cannot wed objective temporal becoming with the existence of a tenseless past—which is apparently what the growing universe theorist does; for, to do so, is to attribute both dynamic and static aspects to time, and, given the mutual exclusivity of these two aspects—so the thought goes—incoherence results.

My goal in this paper is to address the Incoherence objection, first by acknowledging the validity of it on Tooley's conception of past existence, and then by offering an alternative account of past existence that is compatible with a dynamic conception of time. The alternative conception, however, will introduce difficulties of its own, and so I will be revising the theory, as the paper progresses, in order to deal with the difficulties as they arise. The resulting theory will be one that offers not only a satisfactory response to the Incoherence objection, but one that also offers a sketch of a systematic ontology of time. This sketch will include a discussion of the nature of times, events, and objects, and how they relate to one another on my growing universe theory; as well as a discussion of the nature of thisnesses (or haecceities). According to the standard definition of this peculiar type of property, the thisness of an individual x, is the property of being x, or of being identical to x; and I will provide an analysis of what these properties must be like.

Indeed, it is thisnesses that will play the key role in the account, as I take Adams' suggestion about the existence of the thisnesses of past individuals (specifically, for my purposes, past *events*), as offering the ideal conception of what past existence amounts to. Adams' suggestion, however, requires substantial ontological fortification, and it is this fortification that I will be providing. First by spelling out precisely what it means to equate the existence of the past with the existence of the thisnesses of past events, and then by working out the ontological ramifications of this claim.

Session 3

Room R150

A New Case Against Presentism
Peter Forrest (University of New England)

I distinguish Extreme Presentism, the thesis that nothing exists in the future or the past. From Moderate Presentism, which allows that some of the things that now exist also exist in the past, and maybe even in the future, because they endure as the very same things. In order to provide grounds for truths about the past, moderate presentists may follow John Bigelow and, independently, Dean Zimmerman , and take truths about the past to be grounded in past-directed properties of things that have endured.

In spite of its advantages over Extreme Presentism, Moderate Presentism should be rejected in favour of the initially less appealing Growing Block theory. To that end I present two problems. In both cases the solution requires commitment to further,

radical, metaphysical theses. My case, then, is that Presentism in its defensible moderate version turns out to be costlier than first thought. The first problem is the threat of fatalism. The second is the problem of unwanted supervenient entities. Among other extravagant solutions this last problem may be solved using a more radical version of my way of defending the Growing Block from the Lewis/Bourne/ Braddon-Mitchell, Napoleon's Delusion Problem.

Room R160

A B-Theoretic Account of Our Experience of the Present
Natalia Deng (University of Oxford)

I examine an aspect of our temporal experience that is often taken to be evidence for the falsity of the B-theory of time, and show that it can be accommodated on the B-theory. I take the B-theory to include the following four tenets: all times are equally real; the A-determinations 'present', 'past', and 'future' are not objective and/or mind-independent; there is no temporal passage or becoming; reality can in principle be completely described tenselessly. The aspect of temporal experience in question is our experience of the present as somehow ontologically privileged compared to the past and the future. In B-theoretic terms, this aspect of temporal experience can be formulated as follows (using curly brackets to indicate tenseless verb forms).

Presentness Datum: To a subject located at a given (B-)time, the events which {are} located (roughly) at that time seem to be special or more real than the events which {are} located at earlier and later times.

I start by contrasting this formulation with one based on what I call the 'Simpliciter Strategy', employed for example by Y. Balashov. Balashov maintains that while on a B-theoretic account all events can be truly judged to be present when they occur, that account leaves unexplained why some events are known to be present 'simpliciter', or to be occurring 'simpliciter'. I argue that there is no intelligible notion of occurrence in time over and above occurrence at a time. The seeming break in symmetry between times is given equally at all times.

Mellor accounts for the truth of specific present-tensed beliefs, such as present-tensed belief tokens about particular events (e.g. 'I am sitting') and belief tokens of the type 'the experiences I am now having are present'. But he leaves unaddressed what I take to be the real explanandum, namely that at each time that time seems to us to be more real than other times. This is part of our unreflexive awareness of events and their being present, and so does not involve explicit present-tensed beliefs. Nonetheless, the seeming involved in the presentness datum turns out to be at root cognitive rather than genuinely experiential. It involves a *tendency to think* of other times as less real.

Some B-theorists try to give naturalistic explanations of our experience of the present which aim to show that that experience is in a very literal sense mind-dependent. I briefly discuss accounts by C. Callender and A. Falk. I suggest that the former stops short of addressing exactly how the mind creates presentness, while the latter treats the question in a way that remains unsatisfactory.

I then give my own explanation of the presentness datum.

First, there are important differences between perception on the one hand and memory and anticipation on the other hand that contribute to present events seeming more real to us than past or future ones. Both the occurrence and the content of episodes of remembering and anticipating are under our conscious control to a much larger degree than the occurrence and content of episodes of perception are. Moreover, perception can be understood as a causal interaction with the external world, while memory and anticipation largely concern causal interactions between purely mental events.

The second half of the explanation emerges when we reflect on the fact that there is no analogue of the presentness datum in the case of our experience of spatial locations. We find it intuitively plausible to regard spatial locations beyond our spatial perceptual horizon as real, but counterintuitive to suppose the same about time. My

explanation of this disanalogy is a development of an argument by J. Butterfield. Unlike our temporal perceptual horizon, our spatial perceptual horizon is comparatively large, in the sense that it allows to acquire information about the state of many objects seemingly at once. In contrast, we only gather information about the state of a given spatial location a very short distance into the past, and seemingly not even that – the time it takes for signals form the vicinity of our spatial location to reach us is negligible. We do not observe the events that lie in the distant past or future of our current spatial location. Hence the meaning of such predicates as 'is real', or 'exists', predicates which we are in principle inclined to apply to all observable entities, becomes restricted in the temporal but not the spatial dimension: it becomes 'is now located somewhere', rather than 'is or was or will be located here'. If our perceptual access to the world were such that we could observe the distant past and future of our spatial location but not other spatial locations, this would likely result in a reversal in the meaning of these predicates. In such a world, we would find it easy to believe in the equal reality of other times, but not in that of other spatial locations.

I conclude that the B-theory has a plausible explanation of at least one aspect of our temporal experience that is often thought to count against it.

Room R170

The Many Lives of Presentism
Christian Wuthrich (University of California at San Diego & University of Geneva)

Presentism is the position in the philosophy of time that maintains that only present events and objects exist, but no past or future events or objects do and that there is a dynamical succession of presents, i.e. a moving Now. For many, the appeal of presentism derives from its alleged capability to account, quite naturally, for our sense that the future is open, that time passes, and that past events irretrievably slip away from us. Apart from purely metaphysical objections and some authors' denial that it presents the only, or even the best, way to account for our intuitions about the phenomenology of temporality, a much more powerful challenge arises from modern physics: special relativity provides strong, and perhaps conclusive, reason to reject a presentist metaphysics of time based on the relativity of the simultaneity of spatially distant events. If we define "the present" as consisting of all those events which occur simultaneous with the here and now, then the relativity of simultaneity seems to imply that the presentist is committed to relativize existence in the sense that different inertial observers will in general take different distant events to be real. Although special relativity does not apodictically rule out presentism, what survives this challenge is a rather unattractively contorted position.

Recently, however, presentism seems to enjoy a renaissance. What is striking about this renaissance is that many of the hold-out (or born-again) presentists attempt to support their position by arguments of the kind that have traditionally been the weapon of choice for many of their opponents: physics. The larger research project, of which this paper is a part, strives to offer a comprehensive analysis of presentist arguments drawing on pertinent results from physics. Here, I shall present, without unnecessary technical detail, three arguments for presentism based on quantum theories of gravity. Two of these arguments are entirely novel, one has been made in print by Bradley Monton. In some sense, they all allege to suspend the relativity of simultaneity and to reintroduce an objective and universally valid assignment of temporal precedence relations. They are, in turn, (i) the Hamiltonian formulations of general relativity required for canonically quantizing general relativity that presuppose the existence of a preferred foliation of spacetime, (ii) group averaging techniques of quantization effectively yielding a preferred foliation, and (iii) a recent approach to formulating a quantum theory of gravity called "causal sets" that can be interpreted in a presentist way. Despite their initial appeal, however, it turns out that these purported quantum gravitational salvations of the presentist doctrine are not successful.

Essence and Necessity in Language

Kit Fine

I will explain how ideas of essence and necessity that have been introduced in the context of metaphysics may have analogues with significant application in the study of language.

Essence-Lite Approaches to De Re Modality

Daniel Nolan, Ross Cameron, John Divers

There are possibilities for objects, as well as for worlds. Some things are possible for me, some are possible for my pen, others again are possible for the number two, but they are often thought to be quite different possibilities. One popular way to provide a metaphysics of *de re* modality is to provide a substantive metaphysics of essences. There have been many recent proponents of this approach, including Kit Fine, Jonathan Lowe and David Wiggins.

But do we need to embrace a substantive metaphysical commitment to essences to accommodate de re modality? The symposiasts will be discussing how best to accommodate de re modality without substantive essentialist commitments.

Parallel Sessions

Session 1

Room R150

Supervenience is Nothing Modal
Philipp Keller (University of Geneva)

"Supervenience", though a philosophers' notion, has a venerable history. It was used by Leibniz to say that relations are nothing over and above the intrinsic properties of their relata, by the British emergentists to characterise the special sciences, by Sidgwick to say that moral characteristics covary with non-moral ones, by Moore to say that the former are grounded in the latter, by Hare to say that they stand in some relation of strict implication and by Davidson to say that "mental characteristics are in some sense dependent, or supervenient, on physical characteristics". Here is what Robert Stalnaker (pp. 87, 89) says about the "intuitive ideas that motivate the attempts to articulate concepts of supervenience":

"To say that the -properties or facts are supervenient on the -properties or facts is to say that the -facts are, in a sense, redundant, since they are already implicitly specified when one has specified all the -facts. -facts are not fact 'over and above' the -facts, not something 'separate'. To state an -fact, or ascribe an -property, is to describe the same reality in a different way, at a different level of abstraction, by carving the same world at different joints." "The concept of supervenience is supposed to be a concept that helps to isolate the metaphysical part of a reductionist claim – to separate it from claims about the conceptual resources and explicit expressive power of theories we use to describe the world."

In recent discussions, attempts to articulate this intuitive idea – which I will call "determination" – have usually tried to spell it out in modal terms: determination has been explained as a kind of modal covariation.

In a first, negative, part I argue that this is mistaken: all modal characterisations of determination on the market have some important drawback and face counterexamples. In particular, I identify three problem areas:

1. Modal covariance is not anti-symmetrical: not only do properties of the singleton {Socrates} supervene on those of Socrates, but also do properties of Socrates supervenes on those of his singleton. However, determination is one-way: the way Socrates is determines the way his singleton is, not the other way round.
2. It has proven very difficult to adequately capture the contingency of many determination claims: there are strong reasons to assume that quantifier restriction, which is the only option for those identifying determination with modal covariance, is inadequate this task;
3. We have cases of determination which can not be explained as cases of modal covariance: we talk of the supervenience of the modal on the non-modal, the dispositional on the categorical and of God's creation upon God; none of these claims can be adequately cast as a claim of modal covariance.

In a second, positive, part, I articulate a non-modal concept of determination: instead of explaining it in terms of modal covariance, I explain it in terms of essential ties between properties, taking the determinate/determinable relation as my paradigm case.

Room R160

Vindicating Thought Experiments about Essences: The Conferralist Story
Ásta Sveinsdóttir (San Francisco State University)

Thought experiments about the essential properties of things are a staple of philosophical discussions. Traditionally, realists about what makes a property essential to an object —essentiality— face a problem about how to account for the epistemological side of their view. In particular, they face the problem of how to make sense of

thought experiments about the essences of things and how we can come to know about the essences of things through those practices. A conferralist about essentiality holds that what makes a property essential to an object is not something that lies in the nature of the object as it is independent of human thought and practices but rather is an expression of our values and interests, as reflected in our conceptual use. Given the conferralist account of essentiality, there is a very natural story to be told of what we are doing when we engage in thought experiments about the essences of things and how it is that we can gain knowledge of essences in that way, albeit fallible knowledge. The focus of this paper is on fleshing out the story of how conferralists can vindicate thought experiments about essences. To this end, a brief explication of conferralism is offered before spelling out how thought experiments can be vindicated. According to this story, engaging in thought experiments is a legitimate method of philosophical argument precisely because in that way we test our conceptual commitments and, on the conferralist account of essentiality, whether a property is essential to an object or not depends on what our actual conceptual commitments are. This story should be of interest to anyone interested in the debate over the reality of essences and essentiality.

Room R170

The Contingency of Modal Metaphysics
Stephan Leuenberger (Unversity of Leeds & University of Sheffield)

The received view has it that basic metaphysical claims are non-contingent. We may not know whether they are true or false, but we know that they are necessary if true, and impossible if false. In recent years, the received view has come under attack on various fronts. Metaphysical claims such as the following have been claimed or argued to be contingent, by various philosophers:
* Persisting individuals have temporal parts.
* Properties are universals.
* For any objects, there is a fusion that has them as parts.
* Numbers and sets exist.
* Human beings are rational.

Metaphysical contingentism is the view that such metaphysical claims are in general contingent. Metaphysical contingentism might be supported in various ways. Perhaps the most plausible route to it goes via *possibility liberalism*, which is characterized by a principle along the following lines:
1. If Φ is coherent on reflection, it is possible.

Metaphysical contingentism follows from possibility liberalism together with two further claims:
2. If Φ is a metaphysical claim, so is its negation.
3. Metaphysical claims are in general coherent on reflection.

However, defenders metaphysical contingentism face *Sturgeon's challenge* (Scott Sturgeon, "Modal Fallibilism and Basic Truth", in Fraser MacBride (ed.), *Identity and Modality*, OUP 2006). Metaphysical claims involve theses about modality, such as the following:
* Φ is possible if and only if there is a maximally spatiotemporally interrelated fusion where Φ is true.
* Φ is possible if and only if there is a consistent sentence that expresses Φ.
* Φ is possible if and only if there is an ersatz world in which Φ is true.
* Φ is possible if and only if according to the Great Fiction, there is a world where Φ is true.
* Φ is possible if and only if there are things such that Φ follows from the essence of these things.

Sturgeon argues that metaphysical claims about modality cannot themselves be contingent, and that this constitutes a *reductio ad absurdum* of metaphysical contingentism.

I diagnose a fallacy in Sturgeon's argument. The upshot is that metaphysical contingentism is not forced to make an *ad hoc* exception for claims about modality.

However, there is another challenge for view, which does not question its coherence, but merely whether we have good reasons for holding it. As noted, the view is most plausibly supported by invoking 1), 2), and 3). However, it can be argued that 2) and

3) are inconsistent with the claim that 1) is necessary (given that there is no contingency in what is coherent on reflection). Hence the metaphysical contingentist must take 1) to be merely contingently true. While this is no doubt in the spirit of the view, it does raise the question what grounds we could have to believe that we live in a world where it is true. I will discuss this question by drawing on debates in epistemology.

Room 1140

Definitely Maybe
Alessandro Torza (Boston University)

In a first-order extensional language identity is defined as the binary relation satisfying reflexivity (REF) and the substitutivity of identicals (SUB). Modal languages raise the question of whether those principles carry over to intensional identity. Standard Kripke semantics validates REF and SUB by way of two assumptions. The first is trans-world identity, the thesis that individuals exist at different worlds; the second assumption imposes that quantifiers range over individuals. If either assumption is dropped, the validity of REF and SUB is no longer guaranteed. For instance if quantifiers range over intensional entities, i.e. ways of picking individuals (functions from worlds to individuals), SUB fails. The same happens if quantifiers range over world-bound individuals, as in Lewis' Counterpart Theory (CT). The invalidity of SUB results in the failure of the necessity of identity and related laws concerning the interaction of quantification, identity and modalities. According to Kripke, this fact shows that CT misrepresents identity. However, Forbes and other critics of Kripke maintain that trans-world identity needs to be grounded via nontrivial individual essences, hence without appealing to haecceities. As of now we still do not have a general theory of trans-world identification criteria. My aim is to skirt this dilemma by providing an interpretation of modal languages that both avoids trans-world individuals and extends a significant class of properties of extensional identity to the intensional case. Given a language *L*, a binary relation is said to be *logically indiscernible from extensional identity* if it satisfies REF and the restriction of SUB to the logical fragment of *L* (call it L-SUB). I define an Approximated Counterpart Theory (ACT) that makes intensional identity logically indiscernible from extensional identity. This desideratum is achieved in three-steps: (1) the constraints on the counterpart relation ought to be relaxed so as to obtain a similarity relation; (2) any similarity relation can be made transitive by approximation. The resulting equivalence relation is the suitable counterpart relation for ACT; (3) finally, I propose a revised translation scheme from quantified modal languages to ACT. Since ACT secures the above desideratum, it also validates the necessity of identity and other metaphysical laws that fail in Lewis' theory. This fact shows that we can find a philosophically motivated interpretation of modal languages which preserves most of the nice features of extensional identity without postulating bare trans-world identification or forcing us into a quest for individual essences.

Room 1150

Can Forms of Hylomorphic Compounds be Defined Independently of Matter?
Michail M. Peramatzis (University of Oxford)

The main aim of the paper is to discuss the apparent conflict between the following claims put forward in Aristotle's Metaphysics Z.10-11:
  * Forms are prior to (asymmetrically independent of) matter, material parts and hylomorphic compounds in account or definition.
  * It seems difficult (if not impossible) to define forms of hylomorphic compounds without mentioning matter or material parts of some sort.

To set out each of these two claims, first, in sections 1 and 2, I argue that the Aristotelian requirement that definition is of the form and of the universal makes definability problematic both for particular and for universal compounds. This suggests that the criterion underlying this requirement should be that definition is of (universal) forms and (universal) forms alone, only of items which are non-compound and non-analysable in terms of the matter-form distinction. Obviously, this criterion is connected with concerns about the type of unity of, and the type of identity between, defined and defining items. In section 3 I make a few brief remarks about the type of identity required for properly defining a form.

As I argue in section 4, however, the definition of forms of hylomorphic compounds cannot prima facie satisfy these rigid criteria of non-compoundness, pure formality and identity just mentioned. By contrast, it seems that such forms cannot be defined without mentioning some type(s) of matter or material parts. Thus, an urgent question arises: isn't there a conflict between this last claim and the thesis that form is prior to matter and material parts in account or definition? In sections 5 and 6 I discuss a few possible replies to this question and propose what seems to me to be a promising solution. In my view, forms essentially are en-mattered and cannot be defined without mentioning some determinable type(s) of matter. These types of matter, however, do not threaten a form's claim to definitional priority, as they themselves are made determinate and are understood on the basis of the definition of the relevant form.

Session 2

Room R150

Global and Strong Supervenience
Alex Steinberg (University College London & PHLOX, Berlin)

Many philosophers believe that various things supervene on other things. The mental is supposed to supervene on the physical, moral properties on 'natural' properties, and, perhaps, facts about wholes on facts about their parts. Supervenience is a useful tool in the philosopher's toolbox for dealing with prima facie mysterious entities that are, nevertheless, taken to be indispensable in one area of philosophy or other. The thought is that we can domesticate these entities by hooking them up, via supervenience claims, with more respectable denizens of reality.

F-properties supervene on G-properties just in case there cannot be a difference in F-properties without a difference in G-properties. This general supervenience slogan can be spelled out in different ways. The three major ways discussed in the literature yield weak, strong and global supervenience. The first two kinds of supervenience deal in property differences between individuals while the last deals in differences between whole possible worlds. My paper is concerned with a much debated topic: the logical relationship between strong and global supervenience.

Soon after it had become generally known that the supervenience slogan can be spelled out in three apparently non-equivalent ways, Jaegwon Kim attempted to give a proof to the effect that global and strong supervenience are equivalent notions. A few years later, Bradford Petrie gave what he took to be a counterexample to the claim that global entails strong supervenience (the Entailment Claim, for short). Because of Petrie's counterexample Kim retracted and claimed in addition that for similar reasons global supervenience is far too weak to deserve its name: according to Kim at the time, global supervenience is not a kind of supervenience at all. However, a few years later still, Paull and Sider argued that Petrie's purported counterexample fails. Although they went on to give their own counterexample, they maintained that counterexamples of that sort do not render global supervenience as weak as Kim made it out to be. The received view nowadays is that the Entailment Claim fails — because of Paull/Sider-like counterexamples — but that it only fails because the supervening properties may have a certain peculiar feature not matched by the subvening properties. Kim conjectures, and Karen Bennett attempts to prove, that the Entailment Claim only fails if some of the supervenient properties are extrinsic (and the subvenient properties are not). Thus, according to them, a restricted Entailment Claim holds: if the supervenient properties are intrinsic, global supervenience entails strong supervenience.

I will argue that the Entailment Claim is false, whether or not it is restricted to intrinsic properties. Consequently, global supervenience has a chance of being an interesting and distinctive kind of supervenience — it is not just strong supervenience in disguise. The argument is simple: supervenience of modal properties (such as the property of being possibly a philosopher or necessarily human) affords a counterexample to the Entailment Claim that does not rely on extrinsic properties. Given that S5 is the correct modal logic, modal properties globally supervene on any kind of properties, for instance on weight properties. But modal properties do not strongly supervene on all kinds of properties. In particular, they do not supervene on weight properties.

Thus, global does not entail strong supervenience. With the counterexample in hand, the paper traces the debate and shows where the arguments for the Entailment Claim go wrong.

Room R160

Essence and Potentiality
Barbara Vetter (University of Oxford)

Kit Fine has famously argued for the claim that necessity (and thereby, of course, possibility) is a 'special case' of essence, rather than vice versa. I share Fine's general motivation to anchor modality in the things of this world, but would like to approach the project from the other side of modality: possibility. I will formulate a concept of potentiality that stands to possibility roughly as Finean essence stands to necessity, and argue that while potentiality does not reduce to either possibility or essence, we can develop a theory of possibility (and thereby of necessity) from it.

P*otentiality.* The potentiality approach has one major advantage: Potentialities, as I want to understand the term, include dispositions, abilities, tendencies and the like – properties which do not only play an important role in various areas of philosophy (such as the philosophy of science, the philosophy of mind, and of course metaphysics itself), but which are also firmly rooted in science and in our everyday understanding of the world. We may therefore rely to some extent on our prior and partly pre-theoretic understanding of potentiality, as well as on the plethora of examples that it provides us with. Respecting this understanding, I will argue, requires us to accept that potentiality has three core features that essence lacks: potentialities are possessed contingently, they may be lost and gained, and they come in degrees. Both essence and metaphysical modality as standardly understood lack these three features, and so potentiality cannot be reduced to either of them. However, even if essence and possibility were supplemented in some way or other to accommodate these features, there are more general reasons for the irreducibility of potentiality to essence and possibility.

P*otentiality does not reduce to essence* – not, at any rate, in the ususal way for modalities. Where $\Diamond_x p$ stands for 'x is potentially such that p' and $\square_x p$ for 'x is essentially such that p', it is not the case that $\Diamond_x p \equiv \sim \square_x \sim p$. For just as essence is narrower than necessity ($\square_x p$ is true for fewer values of p than $\square p$), so potentiality is narrower than possibility ($\Diamond_x p$ is true for fewer values of p than $\Diamond p$). Hence $\sim \square_x \sim p$ is true for more values of p than $\sim \square \sim p$, and so if the biconditional were to hold, $\Diamond p$ would be narrower than $\Diamond_x p$, rather than the other way around.

P*otentiality does not reduce to p*ossibility – not even to a relativized version of possibility that adds in the state of the world at a time and degrees (perhaps as probabilities) to accommodate contingency, temporariness, and gradedness. For being global, even such relativized possibility will not give us the *correct* degree of a potentiality. A thing x may possess, for instance, an intrinsic potentiality to a high degree but be hindered from manifesting it by circumstances extraneous to x. In such a case, the degree of the relative possibility of the potentiality's manifesting will be considerably lower than the degree of the potentiality itself, and there is no way, I will argue, to determine the latter from the former. The only notion of possibility that has a realistic prospect of yielding extensionally the right potentiality results is a relativized version of 'local possibility', as recently proposed by F. Correia. I will argue, however, that metaphysically speaking, it is potentialities that determine what is locally possible, and not vice versa.

An account of modality. Just like Finean essence, potentiality is connected to global modality through one-way implication: For any x, singular or plural, $\Diamond_x p \rightarrow \Diamond p$ holds, and thereby, so does $\square p \rightarrow \sim \Diamond_x \sim p$. The implication does not go both ways, however, for $\sim \Diamond_x \sim p$ is true for necessarily false (and not just necessarily true) values of p. Thus no simple reductive definition of the modalities is given.

I do argue, however, that potentiality is the source of modality (with one restriction to be noted in a moment): Objects existing at a time t constitute, through their potentialities and the degrees to which they have them, what is relatively possible at time t,

and to what degree; any of the objects of a given collection, which may or may not comprise the whole world, determine through their potentialities a range of local possibilities; and all objects, at all times, together determine what is metaphysically possible in the usual (global and unrelativized) sense. Necessity, in turn, is demarcated by the limits of possibility: a necessary truth is a truth to which no potentiality realization can make a difference.

I will end by noting a restriction on this account. Potentialities are properties of concrete objects; the advantage of the potentiality approach that I have mentioned above is that for *concrete objects*, we have a much better grasp on what their potentialities are, than on what their essences are. Now, concrete objects through their potentialities, or rather the limits of their potentialities, determine that the truths of logic and mathematic are necessary, but they do not determine which logical and mathematical propositions are true. (As noted above, $\sim\Diamond_x\sim p$ is true for any concrete x whether p be *2+2=4* or *2+2=5*.) I suggest that we need to take very serious the distinction between abstract and concrete objects, that we have a good grasp on the notion of essence for the former, and on that of potentiality for the latter, but not vice versa; and that, as a consequence, we should take their contributions to modality to be very different: essences in the case of abstract, and potentialities in the case of concrete objects.

Room R170

Belief in Necessity and Modal Quasi-Realism
John Divers (University of Leeds) & Jose Gonzalez (University of Sheffield)

The paper considers the relationship between three kinds of mental state: inability to conceive that not-P; preparedness to adduce P as a premise in reasoning under any supposition, and belief that it is necessary that P. The working (conceptual) hypothesis is that belief in necessity just is that state which has the state of inconceivability (suitably refined) as an antecedent condition and the inferential disposition (suitably refined) as a consequent condition. This hypothesis concerning the propositional attitude of belief in necessity is distinguished from claims about what the truth of the content of such an attitude consists in. The paper further considers, in particular, how this hypothesis can be placed in the service of modal quasi-realism. More specifically, it is suggested that the hypothesis enables the quasi-realist : (a) to explain her rejection of non-trivial Caution about necessity (cf Wright) and (b) to distinguish clearly the conditions under which belief in necessity is prima facie warranted from the conditions under which such belief is properly warranted and from the conditions under which it is true.

Room 1140

Joint Possibilities
Manfred Kupffer (Johann Wolfgang Goethe University)

Lewis' assumption of a plenitude of possible individuals allows to transform intuitively valid paraphrases of modal truths in terms of ways as in (A.1) below into ones in terms of possible individuals, as in (B.1).

(A.1) X satisfies $\Diamond Px$ (x might be P) if, and only if there is a maximally specific way X could be which entails being P.

(B.1) X satisfies $\Diamond Px$, if, and only if there is (in some world) a counterpart of X which is P.

The rationale of Lewis' counterpart-theoretic semantics is that the relation `X is a counterpart of Y ' replaces the openly modal relation `W is a maximally specific way Y could be'. If these relations are in the intended correspondence, then (A.1) and (B.1) are equivalent. I observe that an analogous equivalence may be obtained in the case of relational ways, again provided a suitable counterpart-relation.

(A.2) $\langle X, Y \rangle$ satisfies $\Diamond Rxy$ if, and only if there is a maximally specific way the pair $\langle X, Y \rangle$ could be which entails being R.

(B.2) ⟨X, Y⟩ satisfies ◊Rxy, if, and only if there is a counterpart ⟨X', Y'⟩ of ⟨X, Y⟩ such that X' and Y' are R-related.

Since the A-clauses are correct, the B-clauses are correct as well. But according to Lewis' own counterpart-theoretic semantics, the pair ⟨X, Y⟩ satisfies ◊Rxy, if, and only if there are in some world counterparts of X and counterparts of Y which are R-related. I show that this is not equivalent to (B.2), and indeed incorrect.

Lewis admits that we sometimes need counterparts of pairs, he gives them the name joint possibilities; but he does not provide a systematic semantics for them. I provide a semantics based on (B.2). It improves upon Lewis' semantics wrt. to the treatment of essential relations, and by being able to deal with trans-world relations and unrestricted quantification.

Session 3

Room R150

Problems for Contingent Existents
Michael Nelson (UC Riverside)

Existence is intuitively contingent. The ordinary objects — like tables, buildings, cats, and people – that actually exist might not have existed, as their existences are dependent on contingent happenings. My existence seems to be dependent upon contingent happenings involving my parents; had those happenings not occurred, I would not have been. Furthermore, but for the actual nonoccurrence of possible happenings, there would have been individuals that do not actually exist. For example, my parents could have had more children and, had they done so, those children intuitively would have been distinct from every actually existing entity. But there are powerful arguments that existence is necessary. I discuss some of those arguments and develop a response that respects the contingency of existence without introducing metaphysically suspect assumptions concerning the difference between existence and being, the contingency of concreteness, or the existence of individual essences that exist independently of the objects that instantiate them. The solution is grounded in a distinction between inner and outer notions of the truth of a proposition, developed in the work of Robert Adams and Kit Fine. The cost of this solution, I argue, is that we complicate our logic by invalidating the characteristic S4 (φ → φ) and S5 (◊φ → ◊φ) axioms and the unrestricted Rule of Necessitation (if ⊢ φ, then ⊢ φ). I end by remarking on two issues that arise in the course of the discussion. The first concerns the contingency of actuality. Actuality is not contingent in the same way that properties like sitting, wearing a red shirt, and doing philosophy are contingent. I argue that the "contingency" of actuality is to be understood in terms of shifts across models and not as shifts across worlds within a single model. The second concerns the interaction between quantifiers, modal operators, and the actuality operator. I argue that this interaction is much more complicated than it may seem and that axiomatic systems, as opposed to natural deduction systems, are unlikely to succeed.

We formalize our intuitions concerning the contingency of existence as follows.

The Possibility of Aliens (ALIEN): ◊∃x¬A∃y(y = x)
(It is possible that something exists that does not actually exist)

The Existence of Possible Absentees (ABSENT): ∃x◊¬∃y(y = x)
(Something exists that might not have existed)

ALIEN is true only in models M with a world whose domain contains an individual distinct from every individual in the domain of the distinguished actual world of M. ABSENT is true only in models M with a world whose domain lacks some individual in the domain of the distinguished world of M.

The problem is that there is a very simple proof for formulae that are incompatible with ALIEN and ABSENT, as follows.

1.	$\exists y(y = x)$	Theorem S[tandard] Q[uantificational] L[ogic]
2.	$\Box\,\exists y(y = x)$	[the Rule of] N[ecessitation]: 1
3.	(NE) $\forall x\,\Box\,\exists y(y = x)$	U[niversal] G[eneralization]: 2
4.	(NNE) $\Box\,\forall x\,\Box\,\exists y(y = x)$	N: 3

ABSENT is inconsistent with both NE and NNE. While ALIEN is consistent NE, it is inconsistent with NNE, if we assume the following semantics for the operator A.

> $A\varphi$ is true with respect to (wrt) w in model M just in case φ is true wrt the distinguished world w* of M in M.

While the above consistency and inconsistency claims are straightforward to prove semantically, it is not as easy to devise a proof theory in which the negation of Alien is provable from NNE and not from NE. I suspect that it is only by introducing an inference rule governing the introduction and elimination of A, as opposed to an axiomatic mimic, that it can be done. I provide some reasons for thinking that true.

The above proof of NNE fails. The way out is to reject the application of N at line 2. Not all of the theorems of SQL are necessary truths, even though they are all logical truths. This is because the logic of quantification takes contingently existing individuals as basic. Hence, the logic of quantification has contingency built into it. I claim that we should embrace this consequence and not abandon SQL in favor of a free logic, for example, where the formula on line 1 is not valid. By accepting Fine and Adams's distinction between inner (truth in) and outer (truth at) truth, we can make sense of the failure of N and show how its rejection is not an ad hoc or purely formal move and that there is a deep metaphysical insight behind it.

Room R160

Non-Essential Necessary Connections
Roberta Ballarin (University of British Columbia)

Saul Kripke's *Naming and Necessity* is undoubtedly the classical text of contemporary essentialism and the historical starting point of many current metaphysical debates on topics such as identity, necessity, essence, kinds, origin and composition, to mention just a few. *Naming and Necessity* simply *is* the canonical text of contemporary essentialism. No question about that. Yet it is my contention that this philosophical masterpiece does not present just one single unified interpretation of necessity. In this paper, I argue that Kripke's famous argument in footnote 56 for the necessity of origin (for tables) embodies a fundamentally anti-essentialist, combinatorial interpretation of necessity, despite its purported conclusion. Such combinatorialism is at odds with *N&N*'s main essentialist framework. Despite the fact that in this particular case (the necessity of origin) the two views end up passing the same verdict, the extensional equivalence does not eliminate the fundamental conceptual gap between the two conceptions.

Given the conciseness of Kripke's argument for the necessity of origin, in this paper I refer to some reconstructions of the argument that seem to capture Kripke's intent in the cryptic footnote. I argue that the most plausible reconstructions make all use of a compossibility premise, according to which – barred reasons to the contrary – any two genuine possibilities are to be compossible. According to such a Principle of Compossibility, if (i) it is possible to build a table B from a block of wood A and (ii) it is also possible to build the same table B from a (non overlapping) block of wood C, then (iii) it is possible to build B from both A and C (in the same world at the same time). Given the falsity of the consequent, it is concluded that either (i) or (ii) is false. We can then generalize and conclude that origin is necessary.

I connect the basic idea behind the Principle of Compossibility (genuine possibilities are compossible) to two fundamentally anti-essentialist approaches to modality: first, to a *generalized* Humean framework, according to which not only there are no necessary connections between distinct existences, but there are also no necessary connections between distinct possibilities; second, to maximal model theoretic constructions. In maximal models, not only for every atomic property of individuals and for every individual there is a world in which that individual bears that property, but also all combinations of different individuals bearing various properties (relations) is possible.

I argue that under the assumption of some independent theses (for example, that table B cannot be made out of both A and C) conflicts will arise between the Humean maximalist principle of recombination of distinct existences on the one hand and the Principle of Compossibility on the other. When such conflicts arise, as in the case of Kripke's tables, the preferred combinatorial strategy will by default eliminate possibilities rather than violate the Principle of Compossibility (unless independent reasons suggest otherwise). The reason of such a preference is that the Principle of Compossibility embodies the spirit of the combinatorial interpretation of necessity at a deeper level than Hume's recombination of distinct existences, insofar as it defines possibilities themselves, rather than objects, as fundamentally independent from one another.

Room R170

Modal Expressivism and Metaphysical Pragmatism
Amie Thomasson (University of Miami)

The 'heavyweight realist' treats modal discourse as describing a range of modal facts or properties, which serve as truthmakers for our modal claims and explain why these claims are true. Heavyweight realism has become popular among metaphysicians, given the tendency to read all discourse as fulfilling the same—descriptive—function, combined with the desire to believe that metaphysics can discover hidden and previously unknown facts about the world.

But heavyweight realism faces notorious difficulties. First, there are the ontological difficulties in saying how these alleged modal facts or properties are supposed to fit into the natural world, or how any philosopher of a vaguely empiricist or naturalist persuasion can find suitable truthmakers for modal claims in the physical or natural world. Second are the well-known epistemological difficulties explaining how we can come to know what the modal facts are, given that they can't simply be perceived or otherwise empirically detected. Without a good story about that, the heavyweight modal realist also leaves us in the dark about how we can pursue such metaphysical knowledge as requires knowledge of metaphysical modal facts.

The difficulties for heavyweight realist views of modality motivate developing a different understanding of modal discourse: that modal talk should not be understood as *describing* a range of facts and reporting on them at all. Instead, I argue, modal discourse serves the function of *expressing* or *demonstrating* the constitutive rules of use for the terms used in those claims. Modal expressivism can help avoid the ontological embarrassments of heavyweight realism by yielding an account of why basic modal claims stand in no need of truthmakers—so there is no difficulty in trying to 'locate' modal truthmakers in the physical world. Instead, for a basic modal claim to be true is just for it to successfully demonstrate the constitutive rules of use for the relevant terms. (Nonetheless, the *content* of a basic modal claim that is true in this deflationary sense is an analytic claim that is guaranteed to be true in a truth-conditional sense.) I also address a number of standard objections, arguing, e.g., that this does not make modal truths depend on our conventions, entail that they are facts about our language, or require us to deny the existence of mind-independent modal facts and properties.

Moreover, I will argue, this approach to modality provides a route for understanding how we can come to know basic modal facts including metaphysical facts about essence, necessity, persistence conditions, and the like. The move from using language to knowing basic modal facts is the move from being able to *follow* the rules of use for our terms, to being able to *explicitly demonstrate* them in the object-language and indicative mood. This understanding of modality thus also has important consequences for our understanding of the methods and limits of metaphysics—including how we can go about acquiring metaphysical knowledge, and why we should be suspicious of many revisionary views in metaphysics. Most importantly, as I argue at the paper's close, this view of modality has the potential to deflate a great many other debates in metaphysics and suggest that they are best approached in a pragmatic Carnapian spirit.

Room 1140

Structuralism and the Reduction of Possibilist Discourse
Michael Schweiger (New York University)

Quantification over mere *possibilia*—merely possible worlds, individuals, and properties—has become a central feature of much recent theorizing in philosophy and formal semantics. Most theorists, however, are also attracted to *actualism* (the thesis that only actual entities exist) and are hence unwilling to accept talk of such merely possible entities at face value. There is thus a clear need for a reduction of possibilist discourse if the theoretical utility of countenancing mere *possibilia* is to be preserved.

Actualist reductions of possibilist discourse can roughly be divided into two kinds: *proxy* reductions, which proceed by providing actually existing surrogates or proxies for mere *possibilia*, and *non-proxy* reductions, which forgo such surrogates (perhaps in favor of primitive modal notions coupled with actualist quantification). Proxy reductions are generally straightforward, simply swapping possibilist quantification for actualist quantification over the proxies, but the existing proposals for proxy reduction face notoriously difficult problems: First, there are problems of descriptive power, which arise from the difficulty of providing distinct proxies for distinct genuine possibilities. Second, there are problems of cardinality (which are sometimes thought to rule against the possibility of any proxy reduction whatsoever). And third, there are problems stemming from the use of ontologically questionable entities as proxies (such as uninstantiated, non-qualitative individual essences or *haecceities*). These problems have led many philosophers to give up on the idea of proxy reduction in favor of some form of non-proxy reduction, but I argue that there is a viable form of proxy reduction that avoids the difficult problems facing the extant views.

The new proposal makes use of a notion of *structure* that has been featured in contemporary work in the philosophy of mathematics. It is common to distinguish between *systems*—collections of concrete objects jointly standing in certain relations—and the *structures* they exemplify. Structures on this view are themselves genuine objects (albeit *abstract* objects), with other objects (the '*points*' or '*places*' or '*roles*' of the structure) as parts. Many structures can be multiply exemplified, and we say that two systems exemplifying the same abstract structure are *structurally equivalent*.

Using this ontology and ideology of structures, the actualist can provide a proxy reduction of possibilist discourse in terms of a particular structure—the modal structure of reality—swapping quantification over mere *possibilia* for quantification over the roles of this structure. I show how this particular structure can be singled out (in a manner acceptable to the actualist) from the multitude of actually existing abstract structures, and indicate how the resulting structuralist reduction of possibilist discourse avoids the main problems facing existing proxy reductions. I also compare the proposed proxy reduction with various non-proxy reductions suggested in the literature, and suggest that, on the whole, the structural approach provides the best resources for an actualist reduction of possibilist discourse.

The Metaphysics and Epistemology of Abstraction

Crispin Wright

The paper explores, in the light of recent discussions by Sider, Eklund, Hawley, Cameron and others, what if any 'metaontology' is helpful to, or demanded by, the epistemological and ontological role of abstraction principles when they are applied to the foundational purposes of 'neo-Fregeanism' in the philosophy of mathematics.

Object and Property: How Related (if at all)

Peter Simons, Ralf Busse, Joseph Melia, Benjamin Schnieder

Philosophers since Plato have fretted about the relationship between an object (like Socrates) and its properties (such as being clever). The first question is whether there are properties at all, in any ontologically strict sense. Certain kinds of nominalist have denied that there are: all that exists are objects, about which we manage to speak truly. If properties are accepted, the next question is whether they are existing entities in their own right or else a mere outgrowth of our cognitive and/or linguistic capabilities. Or perhaps some predicates denote or connote properties, while others do not. If properties are existing entities, we may ask, thirdly, whether they are universal or particular, and if they are universal, whether they are independent items or only existing in their owners, and if particular, whether they exhaust their owners or not. Finally, if they are items of any kind at all, we may ask what the nature of the relation is between them and their owners, whether or not it is metaphysically special, and whether or not an effable and consistent account can be given of it.

Parallel Sessions

Room R150

Modal Properties, the Necessity of Identity, and the Identity of Indiscernibles
Charles Cross (University of Georgia)

Max Black's famous counterexample to the Principle of the Identity of Indiscernibles (PII) postulates a possible universe containing nothing but two exactly similar iron spheres. Robert Adams has argued for the possibility of Black's universe on the basis of the possibility of a universe with nothing but two *almost* indiscernible iron spheres. If the almost-indiscernible-spheres universe is possible, then, Adams argues, so is the indiscernible-spheres universe. Black's two-sphere universe and Adams's argument for its possibility may seem compelling, but not everyone is convinced. Michael Della Rocca, in particular, has objected that every purported counterexample to the PII involves "a brute fact of non-identity, nonidentity not grounded in any qualitative difference." In this essay I show, *pace* Della Rocca, that Adams's argument for the possibility of Black's universe does not postulate or presuppose brute facts of non-identity. Adams's argument does appeal to modal properties, but, as I show, this appeal does not require brute facts of non-identity. Indeed, Adams's argument is not incompatible, or even in tension, with the view that numerical distinctness must be qualitatively explicable. What emerges from my discussion is an account of how modal properties bear on the PII and on the qualitative explicability of numerical difference. If the PII is understood to quantify over modal as well as non-modal properties, then the qualitative explicability of numerical distinctness does not require the PII. It requires, instead, a principle of the identity of *necessary* indiscernibles.

Room R160

Universals: Ways or Things?
Scott Berman (Saint Louis University)

A standard strategy for articulating how universals differ from particulars draws the contrast by means of claiming that universals can be multiply located ("wholly present") whereas particulars cannot. The aim of this paper is to argue that this strategy is misguided. The main insight driving my argument will be very simple: universals cannot be located in spacetime *at all* – let alone in multiple locations. My hope is that if successful, the argument will put to rest a particular view of universals that has been part of the history of philosophy since medieval philosophers started misinterpreting Aristotle many years ago, namely, the *universalia in rebus* or the so-called "immanent universals" view. I will not argue the scholarly point concerning Aristotle and his exegetes, only that the view encapsulated in this misinterpretation needs to at long last cease to be considered a real option concerning universals, properties, qualities, concepts, types, or whatever else one wants to call these entities, . In place of this strategy then, I suggest that we differentiate particulars from universals in terms of being spatiotemporal or not. And I shall conclude by explicating what the real difference is between aristotelian and platonistic theories concerning universals, unsurprisingly, naturalism. But, I shall argue, it is the aristotelian view that is non-naturalistic and the platonic view naturalistic.

The main argument of the paper will be against aristotelians such as Armstrong and Lowe who make it quite explicit that they accept what Armstrong calls "the principle of instantiation." This principle is adopted so that any commitment to the existence of uninstantiated universals can be avoided. I consider a weak and a strong version of this principle and find both versions unsatisfactory. The result of that discussion is that both aristotelian and platonic versions of realism must accept the existence of uninstantiated universals and that all universals are non-spatiotemporal. I then suggest an alternative way to differentiate these two different theories concerning universals based upon the logical status of 'being.' I argue that since platonists have only one sense of being, or one mode of being, that all things, whether spatiotemporal or not, have, it is preferable to the aristotelian view that has a plurality (*cf.* Russell's

Theory of Logical Types) of such senses of being not only on grounds of parsimony but also in virtue of the fact that any theory of ontological plurality is going to be self-referentially incoherent.

Room R170

Is Resemblance a Binary Relation?
Ghislain Guigon (University of Geneva)

It is a metaphysical common-place, if anything is, that the resemblance we ascribe to individuals in the pub and elsewhere is a binary relation holding between at most two individuals. In this paper, I argue that the binarist view of resemblance – the view according to which resemblance is a binary relation – is affirmed in the absence of any ground and that evidence rather suggests that the resemblance of individuals is a property which is ascribed to different numbers of individuals on different occasions; a so-called multigrade property.

Let's call resemblances holding between at most two individuals, *pairwise resemblances*. Statements like "John, Jack, and Jim – who are three identical triplets – resemble each other", "cats resemble each other", or "red particulars resemble each other" are meaningful and plausibly true in relevant contexts. Thus apparently, there are resemblances holding between more than two individuals. Let's call the latter resemblances *collective resemblances*.

The traditional argument in favour of the binarist view of resemblance relies on the assumption that collective resemblances are definable solely in terms of binary resemblances. This assumption, I argue, contradicts what seems to be a constitutive claim about resemblance, namely:

(Nec) A necessary condition for the resemblance of some individuals is that these individuals resemble in some common respect.

I then argue that which of the definability assumption or (Nec) holds depends on how plural terms denote in statements of the form "The xs resemble each other". When they denote collectively, (Nec) holds and the definability assumption fails; when they denote distributively, (Nec) fails and the definability assumption holds. Since collective denotation is warranted and usually intended when ascribing resemblance to more than two individuals, collective resemblances are not always definable in terms of pairwise resemblances.

Once the traditional argument in favour of the binarist view of resemblance is undermined, I consider whether some further fact about resemblance could ground the binarist view, and argue that no such fact is available. If I am right, then resemblance is a multigrade property.

Finally, I emphasise some metaphysical benefit of this result. If I am right, then the resemblance we ascribe to individuals in the pub and elsewhere is all we need to solve the Imperfect Community Difficulty.

Room 1140

A New Approach to Answering the Special Composition Question
Ned Markosian (Western Washington University)

Peter van Inwagen's Special Composition Question asks (roughly), *Under what circumstances do two or more objects compose a further object?* One popular answer, Universalism, entails that there are way more objects than commonsense allows. Another popular answer, Nihilism, entails that there are way fewer objects than commonsense will countenance (and also that there are no human beings). Each of the "moderate" answers that has been discussed (including van Inwagen's own proposed answer) faces a number of apparent counterexamples. And, finally, the one response to the Special Composition Question in the literature that is consistent with commonsense ontological intuitions, Brutal Composition, posits brute compositional facts, which makes it unacceptable to the vast majority of contemporary metaphysicians. In this paper I show that there are two alternatives to Brutal Composition that,

like it, are consistent with commonsense ontological intuitions, but that, unlike Brutal Composition, do not posit the kind of brute compositional facts that metaphysicians tend to find objectionable. One of these two views, which I call Regionalism, answers the Special Composition Question by appealing to brute facts about the existence and spatial locations of the objects in the world; and the other view, which I call Constitutionalism, appeals to brute facts about the existence of the objects and the stuff (or matter) in the world, together with brute facts about which objects are constituted by which portions of stuff. Thus what Regionalism and Constitutionalism have in common is an essential appeal to the claim that existence facts are brute facts, which, I argue, should be a much less controversial thesis than the claim that compositional facts themselves are brute facts. For this reason I expect Regionalism and Constitutionalism to end up with many more adherents than Brutal Composition.

Room 1150

New Work for a Definition of 'Intrinsic'
Suzanne Lock (University of Sheffield)

This paper is concerned with the elucidation of the notion of intrinsicness, and the complementary notion of extrinsicness. There are a number of reasons why these notions are of philosophical interest and importance. Firstly, there is a connection between intrinsicness and change: an object is considered to have undergone a genuine change if it gains or loses some intrinsic property. Secondly, the causal power and genuineness of extrinsic properties has been called into question, so the issue of whether a property is intrinsic or extrinsic has wider implications. I argue that the traditional approach (exemplified by Kim and Lewis, among others) to defining 'intrinsic' has been interested in intrinsicness for the first reason, to the neglect of the second. If we are interested in causal power and genuineness of properties, the traditional approach does not provide sufficient grounding of our intuitions about the intrinsic or extrinsic nature of properties. I suggest that we satisfy this demand by adopting a new approach to defining 'intrinsic' and propose a new definition couched in terms of individuation conditions.

Section 1 examines the traditional approach to defining 'intrinsic', which started in earnest with Jaegwon Kim's 'Psychophysical Supervenience', in which he defines intrinsic properties as those which are neither rooted outside times at which they are had nor outside the objects which have them. Rae Langton & David Lewis argued that Kim's definition could not be made to work, proposing instead the idea of a basic intrinsic property as a means to defining intrinsicness. Other significant proposals include those of Peter Vallentyne and David Denby. All of these definitions share the ambition of providing a logical, or 'quasi-logical', analysis of 'intrinsic' in order to give the notion a sufficiently fundamental position within metaphysics to enable it to undertake further philosophical work, such as in the analysis of change.

Section 2 argues that the traditional approach fails to satisfy the demands of the second reason which I identified as making the notion of intrinsicness philosophically interesting. Namely, the idea that the distinction between intrinsic and extrinsic properties marks a distinction which is of importance, for example in terms of causal power or genuineness. There are two pieces of new work which a definition of 'intrinsic' needs to do in order to make the notion useful in this philosophical context. It should provide decision criteria which enables us to decide whether a given property is intrinsic or extrinsic. In addition, it should explain why some properties are paradigm cases of intrinsic or extrinsic properties, whereas others are controversial. For example, chemical composition is paradigmatically intrinsic, whereas colour properties are controversial. I argue that this new work is overlooked by the traditional approach.

Section 3 develops an alternative approach to defining 'intrinsic'. The alternative definition is given in terms of the conditions by which an object is individuated as having the property in question. This approach is able to do the old work required by the traditional approach, but has the added advantage of also being able to do the new work identified in section 2.

Session 2

Room R150

On Some Graph-Theoretic Counterexamples to the Principle of the Identity of Indiscernibles
Rafael De Clercq (Katholieke Universiteit Leuven & Fund for Scientific Research – Flanders)

According to the Principle of the Identity of Indiscernibles (PII), objects are identical if they are qualitatively indiscernible. Button (2006), Ladyman (2007), and Leitgeb & Ladyman (forthcoming) all claim to have found graph-theoretic counterexamples to a version of this principle that is appropriate in the context of graph-theory. My aim in this paper is to show that their conclusion is premature. It is premature, I claim, because it relies on a conception of unlabelled graphs that is optional, not mandatory. On this conception, unlabelled graphs are graphs. Although, put like this, the conception certainly sounds correct, there is an alternative, more sophisticated conception of unlabelled graphs for which also something can be said. On this conception, unlabelled graphs are not graphs but *isomorphism classes* of labelled graphs. Conceived as isomorphism classes, unlabelled graphs do not present counterexamples to PII. In favour of the isomorphism conception, one could cite the fact that it is explicitly endorsed by respected graph-theorists such as Tutte (1984) and West (2001).

Room R160

Inexpressible Properties
Benjamin Schnieder (Humboldt University of Berlin)

I. *Predicates and Properties.* Predicates are said to *express properties*. That notion is often defined as follows (e.g. by R. Cartwright, T. Parsons, S. Soames, P. Woodruff):

EX For every predicate *t*: *t* expresses property $p \rightarrow \forall x$ (*t* applies to x $\leftrightarrow$ x has p).

Then, a twofold question arises: (i) does every predicate express a property (in the sense defined)? (ii) are there properties that are or even cannot be expressed by any predicate? In my paper, it is argued that both questions have to be answered in the positive.

Re (i): The assumption that the predicate 'is a property that does not exemplify itself' expresses a property P implies a contradiction (the derivation relies on FOPL and a basic constraint on the semantics of 'apply'; notice that I reserve 'apply' for the relation between a predicate and the objects satisfying it, and 'exemplify' for the relation between things and the properties they have). So, the predicate, albeit meaningful and truly applicable to many properties, does not express a property.

Re (ii): The assumption that some predicate expresses the property of *being a predicate that does not apply to itself* implies a contradiction (the derivation relies on FOPL and a basic constraint on the semantics of nominalized designators of the form 'the property of being *F*'). So, the said property is strictly inexpressible (no predicate could express it). That does not make it a mysterious, unknown entity: we can refer to it with the designator 'the property of not applying to itself' which reveals its exemplification conditions. So, the property is in good order; it just cannot play a certain semantic role (i.e. giving the application conditions of a predicate).

II. *The Unfounded Asymmetry Objection.* The two arguments are connected to two well-known paradoxes, i.e. Russell's paradox concerning properties and Grelling's paradox concerning predicates. Following the majority of philosophers I take the former to show that there cannot be a certain property (i.e. that of not exemplifying to itself); but contrary to many philosophers, I explicitly assume the existence of the Grelling property (i.e. that of not applying to itself). So, my arguments may seem to suffer from an illegitimate disanalogy in how I treat the two parallel cases (cp. T. Hofweber for such a reasoning):

(1)   Grelling's paradox of the predicate 'does not apply to itself' and the Russellian paradox of the property of not exemplifying itself have the same logical

structure.

(C)   So, if the Russellian property should be abandoned because it is paradox-engendering, then Grellingness should be abandoned on the same grounds.

In the 2nd part of my paper, I reject *the unfounded asymmetry objection*. My main point is that the two paradoxes are indeed structurally analogous, but my treatments of them are analogous too. This can be seen from a reflection on Thomson's theorem (1962):

If relation R is defined over class C, then: $\neg\exists x_{\in C}\forall y_{\in C}\ (x\ R\ y \leftrightarrow \neg\ y\ R\ y)$.

The theorem implies: (i) there is no property exemplified by all and only those properties that don't exemplify themselves; (ii) there is no predicate applying to all and only those predicates that do not apply to themselves. I accept both consequences. But while (ii) amounts to the non-existence of a predicate with certain application conditions, it doesn't say anything about the non-existence of any property. Moreover, I argue that abandoning the Grelling property because of the paradox would have an unacceptable analogy with respect to Russell's paradox.

Room R170

Resemblance Nominalism and Truthmakers
Gonzalo Rodriguez-Pereyra (University of Oxford)

In the paper I attempt to answer an objection against Resemblance Nominalism, namely that according to it the truthmakers for the propositions that a is F and that b is F must be the same, which seems wrong. The question arises because according to one version of Resemblance Nominalism, developed in my book *Resemblance Nominalism*, the truthmakers for the propositions that a is F and that b is F are conjunctive facts whose conjuncts are resemblance facts like the fact that a resembles b, and the truthmakers for resemblance facts are the resembling entities themselves, like a and b. I discuss several ways of answering the objection.

Room 1140

Stage Universalism, *Voints* and Sorts
Marta Campdelacreu i Arqués (University of Barcelona)

In recent times more than one philosopher has endorsed the following two theses about the nature of objects. First, *stage theory* that claims that ordinary objects are instantaneous; they persist over time by having temporal counterparts at different times. Second, *diachronic universalism* that claims that any class of momentary objects has a diachronic fusion. Yuri Balashov has argued in a recent paper that unsolvable problems related to lingering properties (properties that take time to be instantiated) are expected for those wanting to defend stage theory; diachronic universalism, that would imply *counterpart universalism* (any two momentary objects existing at distinct times bear a temporal counterpart relation to each other); and a certain conception about sorts (all objects fall under one/several of them; they usually form hierarchies; the properties and relations determining them have to be non-haecceitistic: no particular object, time or place must enter into their determination). In the talk (if the paper is accepted) I will try to develop the two following ideas. First, I will try to show that there is a solution to the problem Balashov presents in which a *voint*, *o*, seems to have incompatible properties (an object is a voint in virtue of (i) being intrinsically pointlike (ii) being spatiotemporally and qualitatively continuous with other voints, and (iii) *shmoving* with constant *shpeed v* away from a point). Moreover, the proposed solution will be inspired by Balashov own scrutiny and rejection of a possible answer to his criticism. Thus, I will appeal to reference systems to deny that *voint* is an ultimate sort. But, against Balashov, I will argue that the use of reference systems to differentiate between *voint+* and *voint-* does not illegitimately presuppose non-qualitative properties or relations. Broadly speaking, I will defend that, on the one hand, objects falling under the sort *voint+* are such that they *shmove* with constant *shpeed v* away from a point in the following way: with respect to the appropriate kind of reference system (the one used by Balashov to introduce the problematic example) *voints+* are such that: as their position relative to the time-axis

increases in number their position relative to the x-axis increases in number; on the other hand, objects falling under the sort *voint-* are such that they *shmove* with constant *shpeed* v away from a point in the following way: with respect to the appropriate kind of reference system (the same mentioned before) *voints-* are such that: as their position relative to the time-axis increases in number, their position relative to the x-axis decreases in number. But then, we can maintain that *o* does not have incompatible properties: the apparently incompatible properties can be sortal-indexed to the two new found different sorts. My second purpose (if the paper is accepted) will be to offer some reasons to reject Balashov's understanding of sorts (even if this is not necessary to reject his *voint-example* against the joint acceptance of the theses above) as requiring, at the same time, that all objects (including the ones obtained as a result of a diachronic fusion of whatever momentary objects) fall under a sort and that sorts be characterized in terms of non-haecceitistic properties. I will try to defend that even if it may be true that *natural sorts*, i.e., sorts corresponding to, borrowing K. Hawley's terminology, *natural series of stages* are like Balashov defends, there is no reason to think that sorts corresponding to *non-natural series of stages* (*non-natural sorts*) have to be like this.

Room 1150

Two Ways of Having Powerful Properties
Frank Hofmann & Siegfried Jaag (Tuebingen University)

There are two views which can be called ‚dispositionalism'. According to the first view, the "power view" (PV), at least some properties are identical to powers. Assuming that properties are entities, this is an 'entity view of powers' (held, e.g., by G. Molnar (2003) and S. Mumford (2004), (2008)).

According to the second kind of dispositionalism, the "bestowal view" (BV), there are properties which bestow powers on their bearers. But in fact, properties are not powers. The bestowal view is an 'entity-less view of powerful properties'. Nevertheless, the connection between properties and powers is metaphysically necessary. The bestowal of powers is not dependent on any further condition, such as a law of nature. Properties have their dispositional profiles necessarily. (This may be Shoemaker's (2007) view.)

An argument in favor of BV and against PV is provided by counting and invididuation considerations. It can be put in the form of a dilemma. According to PV, properties are powers, and every power is individuated by its manifestation. Now, if one sticks with an ordinary understanding of the manifestations of powers, a manifestation is something like an ordinary event. For example, the manifestation of fragility is breaking. But intuitively, each property comes with an enormously rich dispositional profile; it leads up to many different manifestations, depending on which other properties are present. But if a property is a power, which is individuated by exactly one manifestation, we get a one-to-one proportion between properties and manifestations. This inflation of properties is the first horn of the dilemma.

One way out of this problem is to claim that one and the same power can 'contribute' to various different effects. Then, one introduces an intermediary stage, a kind of 'contribution' to effects. The power is individuated in terms of a contribution, and this contribution is always the same, irrespective of other accompanying powers. The effect is somehow the product of many different contributions, contributed by different powers. Then, however, it turns out that the manifestations of powers are not the ordinary events we usually associate with them. Breaking is no longer the manifestation of fragility. The power's immediate manifestation is a contribution to breaking, and not the ordinary event of breaking. This leads into several serious problems. First, what kind of an entity is a contribution? (Given that powers are individuated in terms of manifestations, this problem immediately concerns the question of the nature of powers.) Second, how do the various contributions 'come together' in order to produce or make up the usual event? Third, what is the relation between the power, the contribution, and the ordinary event it is a contribution of? These problems make up the second horn of the dilemma.

In contrast, BV can preserve the intuitive relation between properties and manifestations. There are only relatively few properties, but hugely many powers which they

bestow. Especially in the case of basic physical properties, it can be held that are only a few basic properties, such as mass properties, charge properties, etc. But if a thing instantiates some of them, it thereby has hugely many powers. In this way, it seems that properties can do their explanatory job.

Session 3

Room R150

New Work for a Theory of Bare Particulars: Non-existent Objects
Niall Connolly (Trinity College Dublin)

According to a version of the Bare Particular Theory (BPT) - a version I will distinguish from other versions - an individual is not the individual it is because it has one (a 'haecceity' or 'thisness') or has (or is the bundle of) all of the qualities it instantiates. I am supposing a sparse view of qualities as *ways things are* (and that 'is self-identical', 'is red or non-red' and other trivially applicable predicates don't stand for qualities). According to the BPT if an individual were to lose all its qualities this would not involve the elimination of the individual. The BPT countenances individuals lacking any qualities, that is: *bare particulars*.

The picture of objects, properties and the ultimate nature of reality painted by the BPT is free of some of the faults that mar its rivals: the Bundle Theory, the Haecceity theory and a neo-Aristotelian substance ontology. But the picture seems at least as flawed as these others. It seems to countenance an individual surviving the loss of all its qualities; this is an absurd scenario.

This paper attempts to put the BPT to work in explaining not just reality, but also unreality. The world in which we find ourselves, it will be argued, contains more than just the ordinary spatiotemporal objects we encounter daily, and the objects that we 'abstract' from our experience. The world in which we find ourselves contains genuinely non-existent objects. We encounter many of these in our daily lives too, for example when we imagine, plan for merely possible scenarios, and engage with fiction. Only the picture of particulars and properties associated with the PPT does justice to these strange but familiar items.

How? Non-existent objects are bare particulars. Their non-existence consists in their lack of qualities. This theory of non-existents departs from theories of non-existent objects inspired by Meinong and Mally – which take these things to have (in some manner) qualities, and to fall under the categories that characterise existents (taking Pegasus to be a horse for instance; and The Round Square to be truly round and truly square). This departure is necessary to allow a coherent account of non-existents and their place in the scheme of things. This account does not traduce, rather it is supported by our considered intuitions about the intuitive examples of non-existents. It explains the intuitive facts about the intuitive examples of non-existents as facts about the relations they stand in to existents and to each other.

The theory of non-existent objects as bare particulars explains the non-existence of non-existents: that is it explains their deficiency in comparison with existents (i.e. clothed particulars). It explains the baffling claim that there are things that don't exist. It doesn't seek to provide non-question-begging identity conditions for non-existents; but if the BPT is correct then Quinean demands for non-question begging identity conditions are illegitimate.

This paper defends the BPT and a modified Meinongianism as mutually supportive. The BPT is superior for taking account of both real and unreal objects. It can deny that an object could survive, in the sense of, continue to *exist* through, the loss of all its qualities. This denial is consistent with its allowing that the formerly but no longer existing object has not been eliminated – it has merely passed over into the realm of non-existence.

Room R160

The Importance of Relational Tropes
Friederike Moltmann (IHPST Paris)

In the whiteness of Socrates as well as John's height, tallness, strength or weakness are among the kinds of standard examples of tropes given in the philosophical literature, which does not say much about the various kinds of tropes natural language allows for reference to except that tropes act as objects of perception, as relata of causal relations, and are located in space and time (if their bearer is) and, often, that they act as truth makers of the corresponding simple sentences. In this talk I will argue that much greater refinements of the ontology of tropes is needed to account adequately for the semantics of adjective nominalizations and other trope-referring terms, and in particular, that relational tropes of various sorts play a much more important role than has so far been recognized.

The standard view of trope reference has difficulties accounting for trope-referring terms derived from relative adjectives. Suppose John is 'kind of' strong and kind of weak (and thus there is both John's strength and John's weakness). Certainly the same truthmaker (trope) makes it true that John is strong and that John is weak. But then John's strength is John's weakness, and this cannot be. Otherwise an inference from (1a) to (1e) would be valid:
(1) a. John is stronger than Bill
    b. John's strength exceeds Bill's strength.
    c. John's strength = John's weakness, Bill's strength = Bill's weakness.
    d. John's weakness exceeds Bill's weakness.
    e. John is weaker than Bill.
I argue that John's strength does not just consist in the physical condition (simple trope) that is also John's weakness, but rather it is a complex constituted also of various relational tropes, namely instances of some 'greater than' relation in John's physical condition and any other possible physical condition of the same sort. This greater than-relation is in fact the ordering expressed by the comparative 'stronger' and thus is inverse for *weak* and for s*trong*. John's strength and John's weakness, therefore, even if based on the same physical condition, denote different complex 'order-constituted' tropes.

Making use of relational tropes can also explain the difference between John's height and John's tallness. Whereas John's height can be two meters, John's tallness cannot, and whereas John's height can exceed Mary's, John's tallness cannot exceed Mary's tallness. John's tallness, I argue, is derived from the positive *tall*, as in John is tall, which means John's tallness is a relational trope, the instantiation of the 'greater than'-relation in John's height and the contextually given standard. By contrast John's height is a simple trope (or perhaps order-constituted trope), which thus is the object of measurement (it is the semantic 'nominalization' of the homophonous *tall* as in *John is two meters tall*).

Events are entities closely related to tropes, and it appears the best way of conceiving of events is to take events to be instances (or complexes of such instances) of relations of temporal transition (often causation) among tropes, as Mertz (1996) has suggested. This explains various differences between events and trope. For example a sentence like *the darkness of the cellar exceed the darkness of the kitchen* has only a single reading, comparing just the 'degree' of darkness of the cellar to that of the kitchen, not, lets say, the time of darkness of the cellar to the time of the darkness of the kitchen. A straightforward explanation is that *exceed* can take into account only essential features of tropes, whereas the spatio-temporal location of tropes arguably is as accidental as that of their bearer (see also Campbell 1990). Events, by contrast, can be compared as to which exceeds another with respect to their temporal duration, as on one possible reading of *John's laughter exceeds Bill's laughter*. This follows from the fact that temporal transition relations are constitutive of events. In fact, events do not 'incorporate' a single respect of comparison in the way tropes do. This can be traced to the fact that verbs do not express comparative relations among events, and thus to the fact that deverbal nominalizations do not denote order-constituted tropes in the way relative adjective nominalizations do.

The Individuality of Repeatable Artworks
Fabian Dorsch (University of Fribourg & University of Geneva)

Many artworks are repeatable in the sense that they can have multiple occurrences at any moment in time. There are many copies of 'Ulysses', many performances of 'La Boheme', or many prints of 'Einstein Sticking his Tongue out'. None the less, repeatable artworks - just as all other artworks - possess a certain individuality and uniqueness. We locate them in the history of art; and we like one more than another.

Because of this double character, it has been so difficult to decide to which ontological category repeatable artworks belong to. Their possible multiplicity seems to speak against their being particulars, and in favour of their being universals; while their individuality seems to speak again of their being universals, and in favour of their being particulars.

Traditionally, the first view has been more prominent: repeatable artworks have been treated as types, kinds, or similar entities (e.g., Wollheim, Wolterstorff, Kivy). But in recent years, views of the second kind have (re)emerged, according to which repeatable artworks are entities in between universals and particulars - what have been called 'abstract artifacts' (Thomasson) or 'historical individuals' (Rohrbaugh).

One way of characterising the difference between the two views - which has the advantage to stay neutral on the issue of nominalism - focusses on what they say on the relationship between the different occurrences of a given repeatable artwork. While the first view will say that they are all occurrences of the same work because they resemble each other in crucial respects, the second takes them to be occurrences of the same work because they are reproductions of the same initial occurrence (or at least originate in the same creative event or process). Reproduction is thereby to be understood partly as a causal notion: all occurrences have to share the initial event of production among their causes. The initial occurrence stands to the later ones in roughly the same relation as does a piece of paper to photocopies of it.

Now, my first aim in this talk will be to assess the objections, which proponents of the reproduction view have presented against the resemblance view. For instance, they have argued that repeatable artworks - in contrast to types or kinds - are modally and temporally flexible, that is, can or do change certain of their features without loosing their identity (e.g., parts of a novel may get lost, without the novel changing its identity or going out of existence). They have argued that repeatable artworks - but not the respective types or kinds - have their particular origin among their essential features. And they have argued that repeatable artworks - but not types or kinds - are created artefacts which can also be destroyed.

But my contention will be that proponents of the resemblance view have the resources to address the objections normally put to them in the literature. They can modify their view in three respects: (i) by changing or enlarging the set of properties concerning which the occurrences of a work have to resemble each other; (ii) by relaxing the degree to which the occurrences have to resemble each other; or (iii) by maintaining that it is vague which properties the occurrences of a given artwork have to share with each other. So they can allow for copies of the same novel with different sentences or differently ordered sections. They can allow for the necessity of origin, while holding on to the possibility of one and the same novel having been written by numerically different authors - as long as they would be of the same type and would live in the same type of social and artistic environment. And they can allow for the repeatable artworks themselves to be conceived of as entities which come into existence with the first and go out of existence with their last occurrence.

The second goal of my talk is to pursue the debate further and try to find better objections against the resemblance view and in favour of the reproduction view. It is striking that the debate has so far focussed mainly on issues or arguments which do not bear on the fundamental difference between the two views. The objections discussed before concern primarily the temporality and contextuality of repeatable artworks (as well as some related modal issues). But, as I hope to have shown, both views are compatible with this. In contrast, the real difference between them con-

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cerns the postulated relation between the occurrences and, consequently, the relation between the artwork and its occurrences. Hence, what we should look for are arguments which speak directly against the resemblance requirement and the related idea that the occurrences of repeatable artworks instantiate them, and which instead favour the characterisation of both relations in terms of reproduction.

I will consider three possible lines of thought. A first and mainly metaphysical is that repeatable artworks - but not instantiable entities - can and do depend for their existence on concrete entities. However, this would mean that the Aristotelian conception of universals would be faulty - a consequence better to be avoided.

A more promising approach is perhaps to leave pure metaphysics and consider the possibility of epistemological or semantic constraints on the ontological status of entities. Thus, the second argument is to maintain that we value and get personally attached to repeatable artworks (and not merely to occurrences of it), but not to instantiable entities. And a third one is that we recognise the expressiveness of repeatable artworks - which means that we link them to their particular producers and individuate them by reference to the latter. Indeed, it seems plausible to argue that we can recognise the artist in the work, just as we can recognise a person in her gestures.

My aim will be to render the last two arguments for the reproduction view as strong as possible and thereby make plausible that what counts in at least some ontological discussions is whether we can make sense of how we experience, conceptualise or evaluate the world.

Room 1140

Chorology
Nikk Effingham (University of Glasgow)

Material objects bear relations, such as 'exact location', 'occupation' and so on, to certain regions of space. Dub such relations *chorological relations*, and call the field concerning them *chorology*. This paper aims to add to the recent literature on chorology. The first part of my paper argues that the chorology that some, notably Parsons, adheres to is too strong. Parsons believes that it is conceptually incoherent to say that objects can be exactly located at multiple regions. I give an extensive discussion of this claim, arguing that it is false and that we should admit the conceptual possibility of a weaker chorology that allows for this. With that in mind, we turn to the second part of the paper. There I apply this weaker system to giving useful definitions of jargon in the metaphysics of persistence (namely defining perdurantism and endurantism). I conclude by not only giving such definitions, but revealing that there are more theories of persistence than just endurantism and perdurantism.

Part One: A Weaker Chorology

I start by discussing *temporally relativised* chorological relations (the relations an object bears *at a time*). Parsons thinks objects can (as a matter of conceptual analysis) only be exactly located at a single region at any given time. I argue that time travel scenarios indicate otherwise. Given time travel an object can have different geometric properties at one and the same time e.g. given time travel, a man could sit and stand at the same time. As the geometric properties of an object are parasitic on the regions of space it is exactly located at, I argue that time travellers are exactly located at different regions. I discuss the various ways that one can resist this conclusion, and lay out the outlandish consequences in each case.

I then move to *atemporal* chorological relations (the relations an object bears to a region of spacetime). Parsons is too quick in thinking that conclusions about temporally relativised chorology apply analogously to the relations objects can bear to spacetime regions (this is especially relevant considering the distrust that endurantists have towards the atemporal notions that perdurantists use, such as atemporal parthood). For instance, whilst we have a good grip on the notion of being exactly located at a region of space at a time, it's less clear that we have such a grip on the atemporal relation between an object and a region of spacetime without failing to remain neutral with regards to endurantism or perdurantism. I meet this demand by giving ostensive (albeit somewhat strange) examples of 'atemporal exact location' that do remain neutral with regards to endurantism and perdurantism. With that in

place, I demonstrate that there are reasons to think that atemporal exact location could, as in the temporally relativised case, also hold between multiple regions of spacetime.

Part Two: Defining Positions in the Metaphysics of Persistence

With that weak atemporal chorology in place, I turn to defining the various theories of persistence.

The first way of defining the theories is Dimensionalism: that endurantism/ perdurantism should be defined as objects being three-/four-dimensional. With the above chorology in place, I can demonstrate that Dimensionalism won't work for (i) it denies the possibility of gunky spacetimes containing enduring objects (which most endurantists would like to say was possible) and (ii) has problems with an exotic time travel case, whereby we can construct perduring objects that are not extended in time (i.e. are not four-dimensional). Dimensionalist definitions therefore don't gel with what extant perdurantists/endurantists profess to believe in.

The second way is Occupationalism: define the theories in terms of the atemporal chorological relations objects bear to spacetime regions. This is the method I endorse. I detail the exhaustive alternatives, and it turns out that the traditional formulations of perdurantism and endurantism don't exhaust all of the possible ways that an object can atemporally exactly occupy spacetime. Thus I conclude that there are more positions in the metaphysics of persistence than just perdurantism and endurantism.

Room 1150

The Ontological Square
Luc Schneider (University of Geneva)

	Substrate	**Characters**
Types	Kinds (e.g. *Man*)	Attributes (e.g. Wisdom)
Tokens	Substances (e.g. Socrates)	Modes (e.g. Socrates' wisdom)

In Categories 1a20–1b10 Aristotle suggests two orntological distinctions, namely that between *types* (universals) and *tokens* (particulars) on the one hand and that between *characters* (features) and their *substrates* (bearers) on the other hand. The combination of these distinctions results in a four-fold categorical scheme called the Ontological Square (Angelelli 1967, p. 12). This four-category ontology, which has been recently promoted by Jonathan Lowe (2006, chap. 2) and Barry Smith (1997), consists of the following items:
Substances, like commonsense objects such as organisms and artifacts, are tokens of kinds, e.g. Man or Chair. The characters or features of substances are modes (often also called moments), such as qualities (e.g. the wisdom of Socrates), bearer-specific relations (e.g. the love between Abelard and Heloise), states (e.g. Abelard's being in love), powers or dispositions (e.g. the brittleness of a glass), events (e.g. Nelson's victory at Trafalgar) and spatial boundaries (such as surfaces and edges). Modes in their turn are tokens of attributes such as Wisdom or Brittleness which (may) be generic characters of certain kinds of ob jects like Philosopher or Glass.

Both the type-token distinction and the character-substrate dichotomy have been regarded as ontologically irrelevant. However, universals can be distinguished from particulars since the former satisfy the principle of the identity of (non-relationally) indiscernibles, while the latter do not (Williams 1986). Moreover, modes are unigrade in virtue of their being bearer-specific, while substances are multigrade, i.e. they may have more than one feature (thus the distinction between kinds and attributes is also – indirectly – justified). Worries regarding an alleged ontological wastefulness of the four-category ontology can be allayed by reference to William's painless realism: types and tokens, and among the latter, substances and moments, correspond to different ways of counting. In other words, one may regard a substance as a plurality of modes counted as one, and a type as a plurality of tokens counted as one. Thus, the Ontological Square may be nominalistically contructed by a two-stage abstraction

from moments or a privileged subclass of moments, such as events.

Furthermore, I will argue that the Ontological Square is a scheme of ontic predication far more subtle than the conception of predication that underlies usual predicate logic (cf. Lowe 2006, pp. 22, 40, 60, 79, 93 & 111), since it is articulated around two main dimensions of (ontic) predication, corresponding to distinct formal ties or copulas, namely instantiation, which holds between types and tokens, and characterisation, which holds between characters and their bearers. Most importantly, ontic predication does not consist in the matching of sticky or "unsaturated" parts (so-called "predicables") with non-sticky or "saturated" ones (so-called "non-predicables"). Against the contemporary view that there are (linguistic or ontic) predicates with holes to be filled (aptly labeled "F(a)-ntology" by Barry Smith), we sustain the more traditional account according to which there are all sorts of formal-ontological glue that can tie things together.

Carnap's Paradox

Stephen Yablo

Controversy should not erupt between the premises and the conclusion of a logically valid argument. But when the argument is "The number of Martian moons is two; therefore, there are such things as numbers," it does. This is what I am calling Carnap's paradox. Carnap's own solution to the paradox is intriguing but unsatisfactory. A new solution is proposed, drawing on a certain theory of logical parts. The premise strikes us as clearly correct because the controversial bits are presupposed rather than asserted; the conclusion is controversial not because it takes on new content, but because part of the old content recurs in asserted form.

Metaphysical Questions and the Methods of Metaphysics

Amie Thomasson, Karen Bennett, John Hawthorne, Thomas Hofweber

What kinds of question should metaphysics seek to answer? Are these questions stated in ordinary English, or do they require a special vocabulary? Are (some or all) metaphysical questions answerable, and (some or all) metaphysical debates genuine (not merely terminological) disputes? If so, what is the proper method to be used in answering them, and how can we adjudicate among competing answers?

Parallel Sessions

Session 1

Room R150

On the Ontological Commitment of Mereology
Massimiliano Carrara & Enrico Martino (University of Padua)

In *Parts of Classes* [1] David Lewis argues that, like logic, but unlike set theory, mereology is "ontologically innocent". *Prima facie*, Lewis' innocence thesis seems to be ambiguous. On one side, he seems to argue that, given certain objects Xs, referring to their sum is ontologically innocent because there is not a *new* entity as referent of the expression "the sum of the Xs". So, talking of the sum of the Xs would simply be a different way of talking of the Xs, *looking at them as a whole*. However, on the other side, Lewis' innocence is not understood as a mere linguistic use, where sums are not reified. He himself claims that the innocence of mereology is different from that of plural reference, where the reference to some objects does not require the existence of a single entity picking up them in a whole. In the case of plural quantification "we have many things, in no way do we mention one thing that is the many taken together". Instead, in the mereological case: "we have many things, we do mention one thing that is the many taken together, but this one thing is nothing different from the many" ([1], 87). But, due to the fact that Lewis explicitly uses sums as outright objects, we think that Lewis' innocence thesis cannot be understood but in the sense that, even if the sum of the Xs is a well determined object, distinct from the Xs, the existence of such an object is to be necessarily accepted from whom which has already accepted the existence of the Xs. In other words, committing oneself to the existence of the Xs would be an implicit commitment to some other entities and – among them – the sum of the Xs. On the other hand, the existence of the set of the Xs would not be implicitly guaranteed by the existence of the Xs.

The aim of the paper is to argue that – for a certain use of mereology, weaker than Lewis' one – an innocence thesis similar to that of plural reference is defendable. In order to give a definite account of plural reference, we use the idea of a plural choice. Then, we propose a *virtual theory of mereology*, where the role of individuals is played by plural choices of atoms. A choice is not an authentic object, its existence is merely potential and it consists in the act of performing it. Accordingly, in order to interpret a formal first order mereological language, as Goodman *calculus of individuals* (CG), we introduce a potential semantic of plural choices. We argue that our development of virtual mereology, grounded on the notion of plural choice, is ontologically innocent in a way completely analogous to that of plural reference: our claim is that mereological sums – unlike atoms – are not real objects. Referring to a sum of atoms is nothing but a way of referring to certain atoms. Our approach is adequate to interpret a first order mereological language. It is inadequate for Lewis' mereology, because his plural quantification on *all* objects is incompatible with our notion of plural choice, where just atoms are capable of being chosen.

Room R160

Metaphysics and Models
Christina Schneider (University of Munich)

Metaphysics and Ontology still seem to be problematic sub-disciplines of philosophy. If it is presupposed that Metaphysics and Ontology are theoretical undertakings, then several questions and tasks ensue. The talk addresses two of them.

First, this talk addresses briefly two meta-metaphysical concerns: (a) What sort of theories are they? (b) What is their relation to "data"? Second, if there are metaphysical and ontological theories, then these theories should – at least – be both: coherent and adequate, otherwise they would turn out to be futile intellectual games, hardly worth of being called "theoretical" at all.

A short characterization of coherency and adequacy given, it will be argued for including a very strong tool into the methodological canon of Metaphysics and Ontol-

ogy: mathematical models. This proposal is due to the insight that mathematical models – as mathematical structures – exhibit coherence. Moreover, within the sciences where they play a predominant role (and there is nearly no science where they do not), they show impressive adequacy.

Mathematical models, expressing parts of the domain under investigation, are rare in philosophy. They are rather abstract; this, however, is not regarded as a vice in (Analytic) Metaphysics. On the one hand, (Analytic) Metaphysics itself uses formal and abstract tools: e.g. logical systems, often very refined, complex and sophisticated ones, "Logic", for short. On the other hand, this tool seems not to be the best for settling matters – as never ending discussions show. To overstate the situation: Logic regiments the talk about the universe of discourse, mathematical models depict it. In this sense they are first hand and direct expressions of the universe of discourse. They are intrinsically coherent, pervade the universe of discourse and exhibited an impressive amount of adequacy as their success in empirical sciences shows. Moreover, if empirical sciences have relevance for Metaphysics and Ontology – and vice versa – mathematical models are a platform for communication.

Room R170

Are There *A Posteriori* Conceptual Necessities?
Daniel Dohrn (Konstanz University)

Stephen Yablo challenges common lore by maintaining that there are a posteriori conceptual necessities. His example is

p: Cassinis are ovals

I want to show that Yablo´s claim is not sufficiently well-founded as he does not successfully rule out the following relevant, mutually exclusive alternative understandings:

1) p is necessary and a posteriori, but it is no conceptual necessity
2) p is necessary and a priori:
2.1) p is analytic
2.2) p is synthetic

ad 1) In order to maintain (1), Yablo´s claim that our intuitive grasp of "would have turned out" - conditionals accounts for the conceptual necessity of p must be rejected. Yablo´s point that p can only be empirically justified is granted. But p like "Hesperus is Phosphorus" is not analytic. To Yablo, "Hesperus is Phosphorus" is conceptually contingent as the following conditional holds: If Hesperus had turned out to be Mars, Hesperus would not have been Phosphorus. In contrast, there is no world W such that if it had turned out that W, cassinis would have turned out not to be ovals. However, as criticized for instance by Chalmers, the respective understanding of "would have turned out"-conditionals cannot be taken for granted. Rather than explicating conceptual necessity, it must in turn be explicated by requirements of mastering the concepts at stake. As an alternative understanding of such requirements, Bealer´s account of determinate understanding is considered. Determinate understanding is a guide to the way things could have turned out to be. For the sake of argument it is assumed that a proposition q is conceptually necessary iff one does not determinately understand the concepts involved unless one knows q to be true. It is granted that determinately understanding "cassini" and "oval" amounts to *an ability* to settle that p by further empirical scrutiny under appropriate circumstances. In the same way determinately understanding "water" and "H_2O" may amount to an ability to settle that water is H_2O. But since such understanding does not require to *actually settle* whether p, p is not conceptually necessary.

ad 2) In order to maintain (2), a priori knowledge must be allowed to rest on perceptual capacities. Two problems must be met:
a) By Yablo´s lights a priori knowledge can only draw on intellectual or conceptual capacities and must exclude perceptual ones. Surely some boundary must be drawn if there is to be a priori in contrast to empirical knowledge. But it does not have to be drawn by excluding perceptual capacities. In contrast, as the very concept of ovality shows, conceptual and perceptual aspects of cognitive capacities cannot be disen-

tangled in the way required by Yablo´s account.

b) The concept of ovality can only be acquired empirically. Yet Yablo concedes that some claim may be justified a priori albeit the concepts involved are acquired empirically.

ad 2.1) An alternative to Yablo´s account is the following: A proposition q is analytic and can be known a priori iff it is justifiable by possessing concepts alone without further empirical scrutiny. If, as granted by Yablo but in contrast to alternative (1), p is assumed to be justifiable in this way, it is analytic and a priori. As a related conception, Chalmers´ epistemic intension is considered. Knowledge of microphysical and phenomenal world descriptions may be sufficient to a priori establish that p. Criticisms by Yablo and Markos Valaris are rejected as they rest on too narrow a conception of epistemic intension.

ad 2.2) A neo-Kantian account of synthetic a priori knowledge can be developed which rests on pure perceptual capacities of spatial intuition. Since it is denied that perceptual capacities must be barred from a priori knowledge, and since Yablo grants that some proposition may be a priori justified albeit the concepts it involves must be acquired empirically, pure (non-empirical) spatial intuition may allow to a priori justify p although "oval" must be acquired empirically.

Room 1140

Terms and Conditionals Apply
Paul McCallion (University of St. Andrews)

Term formalism is the thesis that linguistic entities are the subject matter of mathematics. In this paper I defend it for the special case of arithmetic. Term formalism is often dismissed as an unmotivated brand of platonism. My aim is two-fold: to refute the claim that the view is unmotivated and to show that it is interestingly different from platonism.

Numerals occur in arithmetical sentences in three basic ways:
  (1) Jupiter has 4 planets
  (2) The number of planets of Jupiter is 4
  (3) 4 + 1 = 5
In (1), `4' stands in adjective position. In (2) and (3), `4' stands in singular term position. A familiar question is: how are the meanings of (1), (2) and (3) related? An unfamiliar question [see Bostock (1974) and Hofweber (2005)] is: why do numerals occur both as singular terms and as adjectives?

The phenomenon of quotation without quotation marks is known as plain mention. An expression from an arbitrary linguistic category will appear as a singular term when it is plain mentioned. I suggest the following answer to the unfamiliar question: singular term occurrences of numerals are plain mentions of adjectives. If that answer is correct, so is term formalism. There is an analogous phenomenon for colour-words, for which the corresponding answer is incredible. I suggest that there is a disanology between the cases that arises from the fact that numbers may be counted.

In the second part of the paper, I briefly outline a semantics for term formalism. The central features are (i) an interpretation of `=' as an equivalence weaker than identity, (ii) a meta-linguistic definition of addition, and (iii) a supervaluationist treatment of definite descriptions of the form `the number of Fs'. I conclude by showing how the resulting position is intermediate between platonism and structuralism, and how it provides a good explanation of our intuitions concerning mixed sentences (such as `Julius Caesar = 2' and `the natural number 1 = the rational number 1').

Session 2

Room R150

Ontological Questions and Kinds of Ontological Commitment
Robert Schwartzkopff (University of Oxford)

Quine famously declared the question of what there is to be *the* ontological question.

He also put forward a meta-ontology, i.e. method to answer the ontological question, which recommends to proceed from truth to ontology by means of application of a criterion for ontological commitment. The criterion employed in the Quinean tradition is a semantic one. A sentence *S* carries a commitment to *K's* just in case *S* contains a semantically relevant component *c* such that for *S* to be true *c* must discharge its semantic function and *c's* doing so requires the existence of *Ks.* Although being widely accepted, there's are also dissent. These dissenters hold that the ontological question should be answered, not by looking at a sentence's semantics, but by investigating in its truthmakers. On this picture, a sentence's commitments are the things that make it true.

In my talk I shall argue for two claims. Firstly, that this view is ill-conceived partly because in verifying claims of truthmaking one has to employ semantic considerations similar to those that ground the semantic criterion. Secondly, that the dissenters' motivation can be accounted for by distinguishing between different kinds of commitment, namely semantic and metaphysical commitments. This results in a meta-ontological view on which answering the question of what there is fails to answer *the* ontological question but rather serves as a springboard for further ontological inquiries.

To illustrate the first point, consider the sentences *S,* 'The mereological sum of *a* and *b* exists', and *S**, 'There is a property *a* and *b* have in common'. According to the semantic criterion *S* and *S** carry commitments to sums and properties respectively. On the truthmaking view things look different. As for *S*, Ross Cameron, for instance, holds that since *S* is solely made true by *a* and *b*, *a* and *b* are *S's* sole commitments. As for *S**, Joseph Melia, for example, holds that *S** might be solely made true by *a* and *b* being both *F*, and that, hence, *a* and *b* are *S*'s* sole commitments. There are two problems with this view. First, even if one grants that *a* and *b* are truthmakers of *S* and *S*,* it doesn't follow that sums and properties aren't. According to classical truthmaker theory an object *x* is taken to be the truthmaker of some truth *p* just in case that the proposition that *x* exists (or that *x* is *F*) entails that *p* is true. But the proposition that the sum of *a* and *b* exists (that there exists a property that *a* and *b* share) entails that *S* (*S**) is true, and thus delivers sums and properties as truthmakers for *S* and *S**. Second, even if it were possible to resolve this difficulty by providing for a sense of 'truthmaking' on which '*a* and *b* exists (are *F*) makes true *S* (*S**)*'* but not 'The sum of *a* and *b* exists (There is a property that *a* and *b* share) makes true *S* (*S**)' comes out as true, one would still need to fall back on semantic considerations to determine *a* and *b* as the commitments of '*a* and *b* exist' ('*a* and *b* are *F').*

To resolve this difficulties I suggest to admit both the sum (property) and *a* and *b* as truthmakers for, and hence as commitments of *S (S*),* albeit commitments of a different kind. On this view the sum of *a* and *b* (a property *a* and *b* share) is the *semantic commitment* of *S* (*S**). But since there is some necessary connection between the existence of the sum of *a* and *b* (a property *a* and *b* share) and *a* and *b's* existence (their both being *F*), *a* and *b* can be seen as being the *metaphysical* commitments of *S* and *S**. Adopting this view enables one to see that the question of what there is, although answering *a* ontological question, doesn't bring ontological inquiry to an end. This is because the semantic criterion is blind for a sentence's non-semantic commitments. Thus, ontological inquiry shouldn't be confined to unearthing the semantic commitments of sentences but should also take into account their non-semantic commitments as well as the relations between these two. One interesting application of this view would be the debate about unrestricted composition. On one construal of this debate sums and their parts are related by a metaphysical rather heavy-weight composition relation such that the existence of sums *cannot* be completely explained the existence of their parts. On this view, *a* and *b*, although among *S's* metaphysical commitments, are not *S's* sole metaphysical commitments. One a deflationary construal of this debate sums could be regarded as mere shadows of their parts - objects whose existence *can* be completely explained by the existence of their parts simply because the conception of a sum is such that sums are objects that exist just in case and because their parts do. On this view, *S* - although carrying a semantic commitment to sums - would have *a* and *b* as its sole metaphysical commitments thereby accounting for its truth in metaphysical more light-weight fashion.

Intuition in Metaphysics: Seeming is Believing?
Michael Dickson (University of South Carolina)

'Seeing is believing' perhaps means that some visual experience provides good evidence for some claims that go beyond the content of the experience. Intuition—intellectual 'seeming'—does not provide similarly good evidence, at least not for metaphysical claims, or so I shall argue.

To begin, I sketch the conception of 'metaphysics' that is in use here, a conception (of metaphysics as the inquiry into 'being *qua* being') arguably taken from Aristotle and arguably consistent with much of contemporary metaphysics. This conception, however, leads naturally to a problem about what counts as evidence in metaphysics.

Some have suggested that intuition counts. I will raise some doubts (but not radical skeptical doubts) about intuition. These doubts are directed specifically (though not exclusively) at George Bealer's account of philosophical intuition. I will consider one of his arguments in favor of the appeal to rational intuition as evidence in philosophy, and suggest that the argument is circular. I will then adduce additional doubts about intuition, focused on whether intuitions could ever be 'calibrated' (a point investigated, for example, by Cummins).

But if intuition is not evidential, then how might reasonable investigation of metaphysical claims proceed? I suggest that metaphysical questions are best pursued as foundational questions in the special sciences. I conclude the essay by briefly considering the related objections that the special sciences themselves rely on intuition and that I have, myself, relied on various intuitions in this course of this argument.

Room R170

Is An Epistemological Justification of Ontology Possible?: Some Issues Concerning the Relation of Being and Knowledge.
Henning Tegtmeyer (Leipzig University)

Kant seems to have faced metaphysics or rather philosophical ontology in general, with a serious dilemma. According to him, we can either choose to justify ontology entirely in its own terms; thus refusing to accept any external justification of its basic terms and principles. Kant calls an attitude like this dogmatism. Or we can look for an epistemological justification of basic ontological claims. The latter project apparently leads straight into scepticism because the principles of epistemology simply do not seem to warrant substantial ontological claims. The strongest version of a philosophical epistemology cannot deliver more than a coherent system of necessary thoughts. But metaphysics is about being and not so much about thought; and why should any order of thought conform to the order of being? Of course, epistemological realism may claim that there must be a pre-established harmony, albeit a fallible one, between thought and being, but this would be a mere postulate. Obviously, this is a fundamental problem for ontological dogmatism as well. According to Kant, dogmatism leads into scepticism, and scepticism leads us nowhere.

On the face of it, Kant's own, critical approach to metaphysics seems to avoid the above dilemma by replacing the project of philosophical ontology by a more moderate theory of experience which just has to account for what can be called the ontology of appearances. Thus, Kant seems to be able to establish a firm link between epistemology and reformed ontology. Moreover, modern Kantianism, from Cassirer to Strawson, has interpreted this account as a plea for ontological modesty in the face of the contingencies of language and of the development of science. But this does not solve the difficulty. In fact, Kantianism is not an alternative to scepticism but a sophisticated version of it.

However, the shortcoming of Kant's critical philosophy is highly instructive for anyone who takes the problem of justifying ontology seriously. If ontology cannot be justified in epistemological terms, and if, for obvious reasons, ontological dogmatism is no real option either, how can it be justified at all?

In my talk, I will offer an alternative both to dogmatism and (Kantian) scepticism. It proceeds in two steps. First, the order of explanation that Kant established will be reversed: I will justify the possibility of epistemology in ontological terms. That is, I will try to answer the question what it is for the world to be epistemically accessible. Second, I will offer a phenomenology of empirical knowledge that is supposed to show how basic ontological claims can be supported in epistemic terms. What is thus aimed at is a different mode of justifying ontology, which leaves the well-known paths of modern theories of knowledge.

This account, however, has to meet two fundamental challenges that will both be addressed in the final part of my talk. The first is how to keep an ontological justification of epistemology away from dogmatism. The second is how to avoid an obvious circularity in the mutual justification of epistemology in ontological terms and vice versa.

Room 1140

On Frege's Ontological Definition of Cardinal-Numbers
Kai Büttner (University of Zurich)

The paper criticizes Frege's definition of cardinal-numbers in his 'Foundations of Arithmetics'. I argue that his "ontological definition" of numbers as concept-classes is neither ontological in nature, nor sufficiently operative. The source of Frege's errors is to be found in the framework of logical analysis that underlies his definition. A correction of these errors will lead to the conclusion that number expressions are not to be construed as referential expressions and hence that numbers are not to be construed as objects.

The paper is divided into three sections. The first section offers a reconstruction of Frege's account of cardinal-numbers in the 'Foundations of Arithmetic'. I shall sharply distinguish between his contextual analysis of number-expressions, and their quasi-referential definitions. According to Frege, the number ascription 'The number which belongs to the concept F is n' as well as the ascription of equi-cardinality (Gleichzahligkeit) 'The same number belongs to the concept F as to the concept G' have to be analyzed as identity-statements. The number-ascription, in particular, states that the definite description 'the number which belongs to the concept F' refers to the same object as the numeral 'n'. Being considered as proper-names, the meaning of numerals – i.e. numbers – have to be defined via the definite descriptions. On the basis of this analysis, Frege finally defines numbers as objects of a particular kind, namely classes containing concepts of equal cardinality.

The second section of the paper aims to identify weaknesses in the Fregean framework by applying it to a more perspicuous kind of expressions, namely colour words. Following Frege, we analyse the colour-ascription 'The colour of x is the colour red' also as an identity-statement about classes – those classes being referred to by the definite description 'the colour of x' and by the colour-word 'red' (the proper-name of the red-class). But, as I will show, the way in which we would operate with this definition does not license a description of the use of colour-ascriptions as stating class-identities. For even if we define the truth-conditions of colour-ascriptions in terms of classes, we do not verify that these conditions are fulfilled in the same way as we verify the identity of any two classes. Thus, if we spell out Frege's definition in an operative sense, then their ontological aspects drop out completely. The moral drawn form these observation will be that the Fregean method of analysis goes wrong in characterizing the logical status of a proposition by reference to its form rather than its use.

A similar but slightly more complicated diagnosis for the case of number-expressions will be given in the third and final section of the paper. Firstly, it shall be argued that the Fregean definition of equi-cardinality of two concepts by the existence of a bijection correlating their extensions is, considered operatively, insufficient. The method of counting, on the other hand, yields an operatively sufficient verification-method for both ascriptions of equi-cardinality and number-ascriptions. But in this method, numerals are used in a non-referential sense: The sentence-fraction 'The number which belongs to F is' is not to be completed by the word which we have found to

refer to a particular class or object, but by the last word that we utter in counting the objects falling under F. Since the Fregean definition might also be interpreted in a similar way, the following conclusion will be reached: If we focus exclusively on their application, systems of number-expressions – as the decimal system – are not naming-systems for sets of (abstract) objects. This result will also raise strong a priori doubts about the widespread idea of analyzing arithmetical propositions as ascribing (mathematical) properties to abstract objects.

Session 3

Room R150

Aggregates and Phenomena
Hans Burkhardt (University of Munich)

Aristotle and the scholastic philosophers distinguished between three different kinds of wholes: Essential wholes, integral wholes and aggregates. These wholes are characterized by the relation to their parts. In the case of essential wholes each part is important, no part can be separated, in the case of integral wholes some parts can be separated and some not, and in the case of aggregates each part can be separated. Therefore aggregates are not real wholes. These relations can be demonstrated by appeal to the mereological triangle.

Leibniz is the first philosopher who has developed a philosophy of aggregates. In his theory of substance he distinguishes between simple substances or monads, compound substances like animals or living entities and aggregates like flocks, societies, armies and matter. Compound substances like animals are called substantiata per se, because they have a real or inner unity. Aggregates are substantiata per accidens, because their unity comes from outside, for example from perception or concepts and thought.

Leibniz thinks that aggregates are perceived via phenomena. In this case we have to distinguish between real and imaginary phenomena. Real phenomena are characterized by their vividness, complexity and the faculty for true hypotheses on their basis. Being a pure phenomenon, matter has a very weak ontological status which it borrows from its foundation in simple substances and their aggregates, it is an ens rationis cum fundamento in re. i.e. a mental entity with a fundament in reality.

In my paper I will reflect on these traditional analyses of the structure of aggregates and phenomena and their mutual relations including the weak ontological status of matter which for Leibniz was only a phenomenon bene fundatum. What are the characteristica and properties of aggregates and phenomena? Do we need the concept of aggregate in contemporary philosophy, for example as a fundament of phenomena or do aggregates not belong to the framework of ontological entities? Are aggregates ontological objects?

Room R160

Dependence, Constituency and Individuation
Kathrin Koslicki (University of Colorado, Boulder)

Many of the most interesting and widely debated questions in philosophy concern relations of dependence. For example, the formulation of various central philosophical positions (e.g., that of naturalism) involves the claim that one class of properties (e.g., some variety of non-natural properties) depends on another class of properties (viz., the natural properties). For many years, it was thought that this relation of dependence among classes of properties could be profitably analyzed by means of the relation of supervenience, i.e., necessary covariance; however, after several decades of lively interest in supervenience, even its most committed champions were forced to conclude that this notion is not strong enough and lacks the right formal profile to yield a relation of genuine asymmetric dependence. Moreover, it now seems that the same considerations that led to pessimism concerning the fruitfulness of supervenience would apply equally well to any other purely modal relation as well. Surprisingly, however, despite the central role dependence has played in philosophy from its very inception, the nature of this relation, still to this day, remains one of the

most understudied concepts in contemporary metaphysics. (Notable exceptions to this generalization are Correia (2005); Fine (1994), (1995); Lowe (1994); Mulligan, Simons & Smith (1984); Simons (1987).)

In addition to those dependence claims which attempt to explain the presence of one sort of feature in an object (e.g., a mental state) by means of the presence of another sort of feature (e.g., a physical state), such claims also often take an existential form, according to which a certain entity or sort of entity, in order to exist, requires the existence of other entities or sorts of entities. In such cases, the relata of the dependence relation tend to stand in a family of relations which I will collect together under the heading "constituency": constituency here is broadly construed, to include for example the relation between a set and its members; between a quantity of water and the H2O-molecules that compose it; between a trope or Aristotelian universal and its bearer; between a hole or boundary and its "host"; and the like. But constituency alone cannot be the source of dependence; for constituency can occur without dependence, and dependence can occur without constituency. An entity may, for example, depend for its existence on certain of its constituents, but not on others: to illustrate, according to some conceptions of personal identity, my existence depends on the existence of my brain, but not on the existence of other parts of my body. Moreover, an entity may depend for its existence on another entity without one being a constituent of the other: for example, according to the essentiality of origins, my existence depends on the existence of a certain sperm and egg, but neither, it seems, were ever constituents of me.

My purpose in this paper is to argue that, when constituency and dependence go together, the missing link is supplied by the conditions of identity or individuation governing the entity or entities in question: it is because spelling out what it means to be a set, say, requires making reference to its members that a set depends for its existence on the existence of its members. In cases in which entities of kind Ψ do not figure in the conditions of identity or individuation of entities of kind Φ, the Ψs can be constituents of the Φs or vice versa, without it being the case that the Φs existentially depend on the Ψs. The modal force exhibited by statements of existential dependence derives from the fact that the entities of kind Ψ in question play a role in the conditions of identity and individuation of the entities of kind Φ which are said to depend on them existentially. (The view advocated in this paper is broadly sympathetic to that defended in Lowe (1994) and Fine (1995) and hence must be defended against the objections raised against this type of view in Correia (2005).) In cases in which the alleged dependence in question is arguably neither connected with individuation and constituency nor with other familiar dependence-inducing phenomena such as causation or entailment, e.g., cases in which one class of properties is said to depend on another, it has been difficult to trace the apparent dependence in question to any credible source; this is one of the reasons why otherwise attractive non-reductivist positions in various areas of philosophy have had trouble preventing a collapse of their positions with their more stable reductivist counterparts.

Room R170

Vagueness and Omniscience
Elisa Paganini (University of Milan)

David Lewis's argument (*On the Plurality of Worlds*, 1986, pp. 212-213) in support of unrestricted mereological composition is grounded on the assumption that "the only intelligible account of vagueness locates it in our thought and language"; this same assumption is included in another argument for the same conclusion by Theodore Sider (*Fourdimensionalism*, 2001, pp. 121-132), according to whom "there is no vagueness 'in the world'; all vagueness is due to semantic indecision".

I intend to challenge this assumption. I argue that if one of the most promising semantic theories of vagueness (i. e. supervaluationism) is correct, vagueness is not only in our thought and language, but also in what is described by language. According to supervaluationism, the inability to find borders to the extension of vague predicates is granted by supervaluationist semantics and higher-order vagueness: the idea is that even an omniscient being like God would be as unable to find a border as anyone else. I argue that an omniscient being would be unable to behave linguistically in a cooperative way when confronted with questions containing vague predi-

cates. Two possible explanations are taken into account. The first is rejected because untenable, the second is defensible but inevitably tied to ontic assumptions concerning vagueness.

My work is divided into two parts. In the first part I consider the issue concerning the correct behaviour of an omniscient being when confronted with a sorites series, if a semantic theory of vagueness is correct. The issue was raised by Timothy Williamson (*Vagueness*, 1994, pp. 198-201), who argued that a cooperative omniscient being - confronted with a sorites series and questions like "Is the person under consideration bald?" - would stop answering "yes" at a certain point. This argument has been challenged by John Hawthorne ("Vagueness and the Mind of God", 2005, *Philosophical Studies*, pp. 1-25) according to whom, if supervaluationism and higher-order vagueness are assumed, an omniscient being cannot be both cooperative and precise in her linguistic performances. He concludes that a cooperative omniscient being should behave linguistically in a progressively imprecise way, she will start answering "yes" at the beginning of the sorites series but her linguistic performance will change gradually until she will clearly not answer "yes".

I argue that the definition of cooperation offered by Hawthorne is untenable, just as any alternative definition is untenable. I present the argument offered by Hawthorne in support of his definition of God's cooperation, I specify which premise I do not consider to be true and why. I consider possible alternatives and I show that they are all untenable for the same reason. The conclusion of the first part is that an omniscient being like God cannot be cooperative. This conclusion is quite different from both Williamson's and Hawthorne's.

In the second part I investigate the reasons for this inability to be cooperative. The impossibility of God's being cooperative depends on the vagueness of the operator Def (where "Def" operator expresses supertruth). Suppose that there is a woman, let us say Mary, whose baldness is indeterminate for any higher order of vagueness. Whenever we consider Mary, the proposition expressed by "the person under consideration is bald" is indeterminate for any higher order of vagueness. Let us now ask: what is the epistemic attitude of God when faced with the proposition expressed by "the person under consideration is bald" when considering Mary? If we consider Hawthorne's definition of omniscience, we should accept that "Def P iff God believes P". And we should conclude that any attribution to God of belief or indefinite belief concerning Mary's baldness is itself indeterminate for any higher order of vagueness. This is quite a problematic result. There are two possible interpretations I can think of concerning the description of God's epistemic attitude and they are both difficult to accept for a semantic theorist.

A first conjecture is that God has a particular epistemic attitude concerning some vague propositions which cannot be truly described. This is quite problematic because it accepts a gap between language and the mind of God (a result which is highly problematic for any semantic theorist and for that reason I reject it).
There is a second conjecture: it is probable that a semantic theorist would not like there being a gap between language and the mind of God. If that is the case, it should be concluded that there is no epistemic attitude of God which can only be vaguely described, but that the epistemic attitude of God is itself indeterminate for any higher order of vagueness. The vagueness of language reflects the vagueness in the mind of God. If that is the case, it should be conceded that the vagueness in the description of God's epistemic attitude is not just dependent on the rules of language, but it reflects the vagueness in the reality it describes. If that is the case, supervaluationism is not just a semantic theory of vagueness but an ontic theory instead.