



**CONVEGNO DI ERANOS 2016**

**“Le origini del mondo.  
Fisica e metafisica della creazione”**

*7-10 settembre 2016*

**ERANOS CONFERENCE 2016**

**‘The Origins of the World—  
Physics and Metaphysics of Creation’**

*September 7–10, 2016*

**ERANOS CONFÉRENCE 2016**

**« Les origines du monde :  
physique et métaphysique de la création »**

*7-10 septembre 2016*



## Presentazione

Quando parliamo di “mondo”, intendiamo una realtà compiuta, ordinata e coesa (il *kosmos* dei Greci, il *mundus* dei Romani). Una realtà che, nel suo divenire, o nel suo apparire, presenta un punto di equilibrio per cui le cose si tengono insieme, si corrispondono, dialogano tra di loro, manifestandone l'unità intrinseca. Qualunque sia l'essenza di questa realtà – universo, vita psichica, creazione scientifica, opera d'arte –, ogni volta di nuovo si ripresenta, nella sua ineluttabilità, la domanda sull'*origine*: quale concorso di forze, quali processi, quale atto di volontà hanno potuto dare luogo, e perché, alla *generazione* di un mondo? Come definire, e che cosa è, l'atto della *creazione*? Nei vari ambiti in cui è un mondo ciò che viene in essere, la creazione mostra tratti comuni? Quali conoscenze ci permettono oggi di parlarne, con certezza? E che cosa è la “certezza” in questo campo? Possiamo ancora interrogare le *origini del mondo* con il linguaggio della tradizione oppure esso è stato del tutto soppiantato dal linguaggio delle scienze esatte? Teologi, filosofi, psicologi, antropologi, biologi e fisici sono ancora legittimati a dialogare tra di loro oppure parlano linguaggi incommensurabili, ormai incapaci di illuminarsi a vicenda? Mondo, origini, inizi, creazione, generazione, genesi: saranno i temi sui quali si concentrerà il Convegno di Eranos 2016. Come di consueto, esso cercherà di far dialogare studiosi di varia provenienza disciplinare, con l'auspicio di affrontare in modo inedito il tema scelto.

## Presentation

*With the idea of 'world,' we refer to a complete, ordered, and cohesive reality—Greeks' kosmos, Latins' mundus. In its becoming or in its appearing, it is a reality that presents a balance point, for which things keep themselves together, correspond with each other, dialogue among each other, and show the intrinsic unity among each other too. Whatever essence lies beyond that reality—universe, psychic life, scientific creation, artwork—always the unavoidable question of its origin arises: which combination of forces, processes, acts of will could generate a 'world,' and why? How we could define, and what is, the act of creation? In the different fields in which a 'world' originates, does the creation show common traits? Which knowledge would allow us to talk about that with certainty? And what is 'certainty' in this field? Can we still question the origins of the world with the language of 'tradition' or, rather, is has been completely replaced by the language of hard sciences? Are theologians, philosophers, psychologists, anthropologists, biologists, and physicists still legitimated to dialogue among each other or do they speak incommensurable languages, not being able to shed light upon each other anymore? World, origins, beginnings, creation, generation, and genesis: these are the themes on which the Eranos Conference 2016 will focus. As usual, the Conference will gather a restricted and highly selected group of scholars, belonging to different disciplines.*

## Présentation

*Lorsqu'on parle d'un monde, nous entendons une réalité accomplie, ordonnée et cohésive (le kosmos des Grecs, le mundus des Romains). C'est-à-dire, une réalité que dans son devenir, où dans son apparaître, présente un équilibre pour lequel les choses se tiennent ensemble, se correspondent, dialoguent entre elles, tout en manifestant son unité intrinsèque. Quelle que soit l'essence de cette réalité – l'univers, la vie psychique, la création scientifique, l'œuvre d'art –, à chaque fois il se représente à nouveau, avec son inéluctabilité, la question sur l'origine : quelle raisons, quel concours de forces, quels processus, quel acte de volonté, ont permis de donner lieu à la génération d'un monde ? Comment définir, et de quoi s'agit-t-il, l'acte de la création ? Dans les différents contextes où c'est un monde ce qui vient à être, la création présente-t-elle des traits communs ? Quelles connaissances nous permettent aujourd'hui d'en parler avec certitude, et qu'est-ce que c'est la « certitude » dans ce domaine ? Peut-on encore s'interroger sur les origines du monde avec le langage de la tradition, ou c'est plutôt une affaire exclusive des sciences exactes ? Théologiens, philosophes, psychologues, anthropologues, biologistes et physiciens sont-ils encore légitimés à dialoguer entre eux, ou au contraire parlent-ils des langages incommensurables, voire incapables de s'illuminer les uns les autres ? Monde, origines, création, génération, genèse : ce sont les thèmes de la Eranos Conférence 2016. Comme d'habitude, la rencontre a l'ambition de favoriser le dialogue entre des personnalités de provenance disciplinaire différent, avec l'auspice de jeter sur le thème une lumière inédite.*



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**PROGRAMMA GENERALE / GENERAL PROGRAM / PROGRAMME GÉNÉRAL**

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<b>Mercoledì 7 settembre</b> <i>Wednesday, September 7</i> <b>Mercredi 7 septembre</b>		
	Mattina <i>Morning</i> <i>Matinée</i>	Arrivi e accoglienza <i>Arrivals and welcome</i> <i>Arrivées et accueil</i>
	12h30-14h00	Pranzo / <i>Standing lunch</i> / <i>Buffet</i>
Eranos, Ascona-Moscia Sala delle conferenze / <i>Lecture Hall</i> / <i>Salle des conférences</i>	14h00-14h30 14h30-17h30	<b>FABIO MERLINI</b> <b>GUY PELLETIER</b>
Hotel Castello-Seeschloss, Ascona	19h30	Aperitivo e cena inaugurale <i>Aperitif and Welcome Dinner</i> <i>Apéritif et souper de bienvenue</i>
<b>Giovedì 8 settembre</b> <i>Thursday, September 8</i> <b>Jeudi 8 septembre</b>		
Eranos, Ascona-Moscia Sala delle conferenze / <i>Lecture Hall</i> / <i>Salle des conférences</i>	09h30-12h30	<b>FATHER GIUSEPPE TANZELLA-NITTI</b>
	13h00-14h30	Pranzo / <i>Lunch</i> / <i>Dîner</i>
	14h30-17h30	<b>DAVID SEDLEY</b>
Eranos, Ascona-Moscia Casa Gabriella / <i>Gabriella House</i> / <i>Maison Gabriella</i>	19h30	Cena / <i>Dinner</i> / <i>Souper</i>
<b>Venerdì 9 settembre</b> <i>Friday, September 9</i> <b>Vendredi 9 septembre</b>		
Eranos, Ascona-Moscia Sala delle conferenze / <i>Lecture Hall</i> / <i>Salle des conférences</i>	09h30-12h30	<b>ANTONIO PANAINO</b>
	13h00-14h30	Pranzo / <i>Lunch</i> / <i>Dîner</i>
	14h30-17h30	<b>GIANFRANCO BONOLA</b>
Eranos, Ascona-Moscia Casa Gabriella / <i>Gabriella House</i> / <i>Maison Gabriella</i>	19h30	Cena / <i>Dinner</i> / <i>Souper</i>
<b>Sabato 10 settembre</b> <i>Saturday, September 10</i> <b>Samedi 10 septembre</b>		
Eranos, Ascona-Moscia Sala delle conferenze / <i>Lecture Hall</i> / <i>Salle des conférences</i>	09h30-12h30	<b>CHRISTIAN GAILLARD</b>
	12h30-13h00	<b>FABIO MERLINI</b>
	13h10-14h30	Pranzo / <i>Lunch</i> / <i>Dîner</i>



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**PROGRAMMA DETTAGLIATO / DETAILED PROGRAM / PROGRAMME DÉTAILLÉ**

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**Mercoledì 7 settembre**  
**Wednesday, September 7**  
**Mercredi 7 septembre**

**Eranos, Ascona-Moscia**  
**Sala delle conferenze**  
**Lecture hall**  
**Salle des conférences**

12h30-14h00	Pranzo / <i>Standing lunch</i> / <i>Buffet</i>	
14h00-14h30	<b>Apertura al Convegno / Opening of the Conference / Ouverture de la Conférence</b>	<b>FABIO MERLINI (Eranos Foundation, Ascona, Switzerland)</b>
14h30-15h30	<b>La quête des origines du point de vue des astrophysiciens [The Quest of Origins from the Point of View of Astrophysicists]</b> (prima parte / <i>first part</i> / <i>première part</i> )	<b>GUY PELLETIER (Institut de Planétologie et Astrophysique de Grenoble, France)</b>
15h30-16h00	Pausa caffè / <i>Coffee break</i> / <i>Pause café</i>	
16h00-17h00	(seconda parte / <i>second part</i> / <i>deuxième part</i> )	
17h00-17h30	Discussione / <i>discussion</i> / <i>discussion</i>	
19h30	Hotel Castello-Seeschloss, Ascona	Aperitivo e cena inaugurale / <i>Aperitif and Welcome Dinner</i> / <i>Apéritif et souper de bienvenue</i>

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**Giovedì 8 settembre**  
**Thursday, September 8**  
**Jeudi 8 septembre**

**Eranos, Ascona-Moscia**  
**Sala delle conferenze**  
**Lecture hall**  
**Salle des conférences**

09h30-10h30	<b>Physical Cosmology and Christian Theology of Creation</b> (prima parte / <i>first part</i> / <i>première part</i> )	<b>FATHER GIUSEPPE TANZELLA-NITTI (Pontificia Università della Santa Croce, Rome, Italy)</b>
10h30-11h00	Pausa caffè / <i>Coffee break</i> / <i>Pause café</i>	
11h00-12h00	(seconda parte / <i>second part</i> / <i>deuxième part</i> )	
12h00-12h30	Discussione / <i>discussion</i> / <i>discussion</i>	
13h00-14h30	Pranzo / <i>Lunch</i> / <i>Dîner</i>	
14h30-15h30	<b>The Creation of the World in Ancient Greek Thought</b> (prima parte / <i>first part</i> / <i>première part</i> )	<b>DAVID SEDLEY (University of Cambridge)</b>
15h30-16h00	Pausa caffè / <i>Coffee break</i> / <i>Pause café</i>	
16h00-17h00	(seconda parte / <i>second part</i> / <i>deuxième part</i> )	
17h00-17h30	Discussione / <i>discussion</i> / <i>discussion</i>	
19h30	Eranos, Ascona-Moscia Casa Gabriella / <i>Gabriella House</i> / <i>Maison Gabriella</i>	Cena / <i>Dinner</i> / <i>Souper</i>



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**Venerdì 9 settembre**  
**Friday, September 9**  
**Vendredi 9 septembre**

**Eranos, Ascona-Moscia**  
**Sala delle conferenze**  
**Lecture hall**  
**Salle des conférences**

09h30-10h30	<b><i>Origine e teleologia della creazione divina nella tradizione religiosa iranica pre-islamica [Origins and Teleological Targets of the Divine Creation according to the Iranian Pre-Islamic Tradition]</i></b> (prima parte / first part / première part)	<b>ANTONIO PANAINO (Alma Mater Studiorum-Università di Bologna)</b>
10h30-11h00	Pausa caffè / <i>Coffee break / Pause café</i>	
11h00-12h00	(seconda parte / second part / deuxième part)	
12h00-12h30	Discussione / <i>discussion / discussion</i>	
13h00-14h30	Pranzo / <i>Lunch / Dîner</i>	
14h30-15h30	<b><i>Senza inizio e senza fine. Tempo, spazio ed esseri nella concezione buddhista [Timeless and Endless. Time, Space, and Sentient Beings in Buddhist Conception]</i></b> (prima parte / first part / première part)	<b>GIANFRANCO BONOLA (Università degli Studi Roma Tre)</b>
15h30-16h00	Pausa caffè / <i>Coffee break / Pause café</i>	
16h00-17h00	(seconda parte / second part / deuxième part)	
17h00-17h30	Discussione / <i>discussion / discussion</i>	
19h30	Eranos, Ascona-Moscia Casa Gabriella / <i>Gabriella House / Maison Gabriella</i>	Cena / <i>Dinner / Souper</i>

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**Sabato 10 settembre**  
**Saturday, September 10**  
**Samedi 10 septembre**

**Eranos, Ascona-Moscia**  
**Sala delle conferenze**  
**Lecture hall**  
**Salle des conférences**

09h30-10h30	<b><i>L'art des origines / L'origine de l'art [Art of the Sources / The Sources of Art]</i></b> (prima parte / first part / première part)	<b>CHRISTIAN GAILLARD (International Association for Analytical Psychology / Société Française de Psychologie Analytique, Paris)</b>
10h30-11h00	Pausa caffè / <i>Coffee break / Pause café</i>	
11h00-12h00	(seconda parte / second part / deuxième part)	
12h00-12h30	Discussione / <i>discussion / discussion</i>	
12h30-13h00	Chiusura del Convegno / <i>Closing of the Conference / Conclusion de la Conférence</i>	<b>FABIO MERLINI (Eranos Foundation, Ascona)</b>
13h00-14h30	Pranzo / <i>Lunch / Dîner</i>	



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RELATORI E ABSTRACT / LECTURERS AND ABSTRACTS / CONFERENCIERS ET RESUMES

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*Senza inizio e senza fine. Tempo, spazio ed esseri nella concezione buddhista  
[Timeless and Endless. Time, Space, and Sentient Beings in Buddhist Conception]*

GIANFRANCO BONOLA

This presentation will deal with Buddhist ideas of universe and time, which originated in the cultural background of ancient India. They will be presented in the elaborated forms in which they have been gradually defined and passed down along the centuries. We will begin from Buddha's teachings and his refusal to deal with the cosmological problem. We will then analyze the doctrinal writings of the oldest tradition, which report their first systematization. Subsequently, we will approach the system that was elaborated by the Great Vehicle (*mahāyāna*): this current expands and completes the image of the universe in coherence with the older recommendations; at the same time, it harnesses its fecundity for spiritual growth, according to the doctrine of some of its schools. On one side, in fact, the multiplicity of universes that are imagined as coexistent allows us to place the 'pure lands,' which were created by some Buddhas and bodhisattvas, in the spatial dimension of celestial worlds; on the other side, it allows us to reformulate the intrinsic unity of 'All,' which becomes the object of an inner (and at the same time, visionary) experience of illumination, as the successful completion of a rich and refined path of growth. Lastly, the presentation will illustrate some points of polemic frictions, which arose when the presence of Christian missionaries in China and Japan brought to Buddhist cultures the creationist conceptions (as well as God's image), which are typical of the Jewish-Christian tradition.

GIANFRANCO BONOLA is Full Professor of History of Religions at the Università degli Studi Roma Tre. He performed his undergraduate and graduate studies at the Università degli Studi di Torino and then continued his education at the Istituto per le Scienze Religiose Giovanni XXIII in Bologna (Italy) and at the Universität Tübingen (Germany). His scientific interests focus on the relationship among different forms of religious expressions, e.g., between the Bible and its Christian and Jewish interpretations, with regard to the messianic theme in particular. He had also worked on Biblical hermeneutics in the age of Enlightenment. He studied and translated Jewish thinkers of the 20<sup>th</sup> Century, such as Franz Rosenzweig (*La radice che porta. Lettere su ebraismo e cristianesimo*, 1992 and *La stella della redenzione*, 2005), Walter Benjamin (*Sul contetto di storia*, 1997 and *Testi e commenti*, 2013), Martin Buber (*Il cammino dell'uomo*, 2000), Gershom Scholem (*Scholem/Shalom. Due conversazioni con Gershom Scholem su Israele, gli ebrei e la qabbalah*, 2001), and Margarete Susman (*Il libro di Giobbe e il destino del popolo ebraico*, 1999). Among his recent publications, we mention here *Il paragrafo ariano. Le chiese evangeliche di fronte al nazismo* (2013). Since several years, he has devoted himself to the scientific investigation of some fundamental aspects of forms of Eastern spirituality, which belongs to the *mahāyāna* Buddhist tradition.



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*L'art des origines / L'origine de l'art*  
*[Art of the Sources / The Sources of Art]*

CHRISTIAN GAILLARD

Linking our art to our origins is a provocative question. In the hope of establishing a few answers, we shall proceed in two or three steps. First, we shall try to identify and explore a few of the stubborn enigmas raised by humanity's first artistic expressions. Some scholars have theorized that they were associated with shamanistic rituals. Then we shall leap forward in time to late-16<sup>th</sup>-century Italy, to look at a work which is just as surprising, formally, and just as disturbing, emotionally, as the most nagging riddles about prehistoric art. Its impact has not lessened with time, and like the cave paintings, it makes us wonder about what is at play in man's relationship to himself. Finally, we shall contemplate one or two works of contemporary art which might very well invite us to reconsider our own hypotheses about the emergence and impact of art at the origin of time, in the course of our collective history, and today.

CHRISTIAN GAILLARD, training analyst and supervisor, achieved his PH.D. in Psychology at the Sorbonne Paris Cité-Université Paris Diderot-Paris VII and EPHE). He has served as president of the Société Française de Psychologie Analytique (SFPA) and as president of the International Association for Analytical Psychology (IAAP), as professor and director of research at the Institut Supérieur de l'Environnement (ISE) in Paris and then as professor at the Ecole nationale supérieure des beaux-arts (ENSBA) in Paris till 2007. He also lectured at many universities and at the C.G. Jung-Institut in Paris. He founded and directed the *Cahiers de Psychologie de l'Art et de la Culture* and was for a long time co-chief editor of the *Cahiers Jungiens de Psychanalyse*. He is now member of the international editorial boards of *The Journal of Analytical Psychology* (London/NewYork), of *Anima* (Florence), of *Jung Journal* (San Francisco, CA), and of *Rivista di Psicologia Analitica* (Rome). He was scientific advisor for the twenty-four articles of Analytical Psychology published in the *Dictionnaire International de la Psychanalyse*, edited by Alain de Mijolla (2002). He has published many works in these journals and in other books of collected essays. Among his works, we mention here *Le Musée imaginaire de Carl Gustav Jung* (1998, translated into Italian as *Il museo immaginario di Carl Gustav Jung*, 2003), *Les Evidences du corps et la vie symbolique* (2000), *Donne in mutazione. Saggi di psicoanalisi dell'arte* (2000), 'La Psychanalyse jungienne,' in *Psychanalyses, psychothérapies: les principales approches* (edited by Mony Elkaïm, 2003), 'The arts,' in *The Handbook of Jungian Psychology* (edited by Renos Papadopoulos (2006; the book appeared also in Italian as *Manuale di Psicologia junghiana. Teoria, pratica e applicazioni*, 2009), *L'Inconscient créateur. A propos du « Libro dei sogni » de Federico Fellini* (avec Lella Ravasi Bellochio, 2009; the book appeared also in Italian as *L'inconscio creatore. Attorno al "Libro dei sogni" di Federico Fellini*, 2009), and *Jung* (2013; the book, first published in French by the Presses universitaires de France, has been translated into height languages).



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***Origine e teleologia della creazione divina nella tradizione religiosa iranica pre-islamica***  
***[Origins and Teleological Targets of the Divine Creation according to the Iranian Pre-Islamic Tradition]***

ANTONIO PANAINO

The Zoroastrian Religion is one of the most ancient of the world; although it was strongly rooted into an Indo-Iranian common background, Zoroastrianism (or Mazdeism) showed an original evolution creating a very particular theology, which assumed its full elaboration in the Pahlavi literature, partly elaborated during the Sasanian period (on the basis of more ancient traditions), partly re-arranged during the Mazdean Renaissance that flourished in the 9<sup>th</sup> century A.D., already under the Islamic domination. The divine creation is presented as a space-temporal trap, in which Ahreman, the antagonist of Ohrmazd, is attracted, so that the world as well as human history appear just as the most fitting instruments adopted by God in order to avoid an eternal contamination of the universe, where the battle between the forces of good and evil will be endless. Thus, history and human conscience are the framework in which the first and most important ontological struggles against Ahreman must be fought. Very particular is the Zoroastrian dimension between two dimensions, one 'mental' (*mênôg*), the latter 'living' (or physical; *gêtiġ*), which are not at all in opposition, but that distinguish two different ontological modalities of being. The demons, for instance, do not possess a proper 'living' dimension, because they cannot generate, and their quality can be defined as a sort of 'non-existence.' For this reason, all the actions enacted by evil forces assume neurotic or even psychotic modalities, an evidence showing that, according to the Zoroastrian theology, evil was considered as generated firstly in mind, and not in the body. The final target of the creation is, then, the total elimination of demonic forces from the world, and the restoration of the eternal time in a new paradisiacal dimension, which will accept the entire, finally saved, humanity.

ANTONIO CLEMENTE DOMENICO PANAINO (Dr., PH.D., D.H.C) is Full Professor of Iranian Studies at the Alma Mater Studiorum-Università di Bologna, Campus of Ravenna (Italy), where he also served as Dean of the Faculty of Preservation of Cultural Heritage. He is also Director of the section of Emilia-Romagna of the Istituto Italiano per l'Africa e l'Oriente (ISIAO ER). His main fields of research concern Old and Middle Iranian philology, history of Pre-Islamic Iranian religions (Zoroastrianism, Manichaeism, and Christianity in Persia and Central Asia, in particular), intercultural history of the relations between East and West (such as the Achaemenian Empire and the Greeks, Byzantines, and Sasanians, among others). He also works on the ramifications of exact and astral sciences in the Ancient and Eastern World. He was awarded the 'R. and T. Ghirshman' Prize by the French Academy and honored with the Doctorate *honoris causa* by the New Bulgarian University in Sofia. He has been President of the Societas Iranologica Europaea (SIE) and other Academic institutions in Italy and abroad, such as the Accademia delle Scienze dell'Istituto di Bologna, Accademia Peloritana dei Pericolanti (Messina), the American Oriental Society, the Associazione Biblica Italiana (Rome), the Association pour l'avancement des études iraniennes (Paris), the Associazione Italia-Russia (Bologna), the International Association of Manichaean Studies, the International association for Intercultural Studies of the Melammu Project, the Istituto Gramsci (Bologna), the Philological Society (London), the Royal Asiatic Society (London), the Società Italiana degli Orientalisti, the Società Italiana di Glottologia, the Società Italiana di Storia delle Religioni (SISR), the Société Asiatique (Paris), the Sodalizio Glottologico Milanese (Milan), and the Associazione per lo Studio in Italia dell'Asia Centrale e del Caucaso (ASIAC), for which he has served as president in 2011–2013. Professor Panaino has directed for many years the Italian Archaeological and Ethno-linguistic Mission in Tajikistan (Yaghnob Valley). He has published more than two hundred scientific articles dedicated to Iranian studies. Among his books, we mention here: *Tessere il cielo. Considerazioni sulle tavole astronomiche, gli oroscopi e la dottrina dei legamenti tra Induismo, Zoroastrismo e Mandeismo* (1998), *La novella degli Scacchi e della Tavola Reale. Un'antica fonte orientale sui due giochi da tavoliere più diffusi nel mondo eurasiatico tra Tardoantico e Medioevo e sulla loro simbologia militare e astrale* (1998), *I Magi evangelici. Storia e simbologia tra Oriente e Occidente* (2004), *Rite, parole et pensée dans l'Avesta ancien et récent. Quatre leçons au Collège de France* (2002), *Sulla punta di uno spillo. Rapporto scientifico sulla prima missione etnolinguistica nella valle dello Yaghnob (Repubblica del Tagikistan)* (edited by G. P. Basello, D. Guizzo, and P. Ognibene (2008), and *Zoroastrismo. Storia, temi, attualità* (2016). His complete bibliography till 2007 was composed in a volume entitled, *Politica religiosa e regalità sacra nell'Iran presilamico* (2007). His *Kleine Schriften* were recently re-published in two miscellaneous volumes: *Sidera Viva. Studi Iranici di Storia della Mitologia Astrale, dell'Astronomia e dell'Astrologia Antica* (edited by A. Gariboldi, P. Ognibene, and Sadovski. 2014). He is also the author of a novel entitled, *Il tacco rosso* (1997).



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*La quête des origines du point de vue des astrophysiciens*  
*[The Quest of Origins from the Point of View of Astrophysicists]*

GUY PELLETIER

The improving of observation facilities and of theoretical physics allows to address issues that, in a recent past, were seemingly unreachable to a scientific viewpoint—issues for which people feel concerned, as suggested by the popular keen interest towards some astrophysical discoveries. Actually, our discipline has a co-responsibility in the representation of the world that our culture sets up, and thus for the meaning of life that everyone can extract from it. One could worry that these scientific processes would close more doors than opening new ones, ensuring the triumph of the reductionist mind. However, the quest of the origins has the remarkable quality of illuminating more and more sharply the reasons why they remain unfindable and as such revealing the patterns of the stuff of Nature. The research projects on these topics force astrophysicists to enlist colleagues of other disciplines, such as chemists, biologists, neuroscientists, philosophers of science, and even generalist philosophers. Indeed these projects extend from the representation of the emerging Universe together with the formation of its elements and structures, of the emergence of life and consciousness. To remedy for the proliferating fragmentation of knowledge that has occurred during the last two centuries became an urgent task of the scientific culture.

GUY PELLETIER, Professor Emeritus of the University of Grenoble (France), is an astrophysicist, founder (1991) and leader (until 2005) of the group of high energy astrophysics of the Laboratoire d'Astrophysique de Grenoble. He was the Founder and holder of the professorship of Theoretical Astrophysics at the Institut Universitaire de France from 1995 to 2005. He was in charge of lectures at École normale supérieure de Lyon (ENS Lyon) from 1991 to 1999. He is the founder and leader of the doctoral education in Astrophysics for Rhône-Alpes region in France, with also some collaboration with Geneva Observatory from 1991 to 1999. His main research activities were devoted to the theoretical studies of the environment of black holes, the paradoxical formation of powerful jets in those environments, responsible for the most energetic events of the Universe, and the various generations of very high-energy particles from these ejections. These high-energy astrophysics events motivated the opening of research activities, gathering astrophysicists and particle physicists, called 'astroparticle physics,' that led to the construction of new types of astronomical instruments, using particles as information transmitters, instead of the telescopes using light.



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## *The Creation of the World in Ancient Greek Thought*

DAVID SEDLEY

**G**reek speculative thought on this topic started ca. 700 BCE in Hesiod's poem *Theogony*, with its genealogical model of the world's origin, here portrayed as the combined history of two divine families. Some 350 years later, the theogonic model reached its climax in Plato's manifesto of scientific creationism, the uniquely influential *Timaeus*, whose legacy was to dominate debate for a further nine centuries. Meanwhile on the materialist wing atomist thinkers developed an alternative cosmogony, invoking nothing more than the inherent properties of matter. Between these two extremes other models competed, variously tracing the world's origins to monistic, dualistic, and pluralistic first principles. Combatants were expected to explain the world's origins, constituents, structure, and contents, down to the emergence of mankind, a further requirement for the theogonic wing being to account for the presence of evil in a divinely created world.

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## *Physical Cosmology and Christian Theology of Creation*

FATHER GIUSEPPE TANZELLA-NITTI

**W**hy investigate, from a scholarly point of view, the relationship between Physical Cosmology and Theology of Creation? The issue is relevant for theology: if the world, as object of the natural sciences, is the same and unique world created by God through his Word-Logos, then theologians should be interested in scientific knowledge of the cosmos. On the other hand, if scientists are truly engaged in investigating the reason for why the physical cosmos is the way it is, they should also show some interest to know the rational, philosophical content of the Logos, whom theology claims to be the ultimate reason of all that exists. However, to compare scientific and theological perspectives on the physical cosmos, some necessary clarifications are needed. These clarifications concern how to approach, at different epistemological levels, notions such as 'origins,' 'universe,' 'cause,' 'being,' 'nothing,' etc. Moreover, insofar as it tries to embrace the whole of physical reality as a single intelligible object, physical cosmology necessarily assumes some implicit philosophical framework, which also deserves to be clarified and made explicit. Theologians, however, should not confine themselves offering epistemological clarifications to scientists; they should also appreciate cosmology's attempt to approach ultimate questions. In fact, although the empirical method remains incapable of giving an exhaustive answer to these paramount questions, cosmologists will always continue to face them, as the Universe is the effect of Creator's Word, who calls and appeals. Listening to theologians speaking of a divine creation should turn cosmologists' attention to the properties of a created world. The effect of an intelligent Logos and a personal Creator, a created world is expected to be rational, intelligible and ordered. The behavior of physical entities, in identical boundary conditions, is expected to be lawful, not capricious, and the properties of elementary particles to be strictly identical on cosmic scales. Within a created world, information is recognized to be as original as space-time or matter-energy. For both scientists and theologians, the universe is something 'given.' The very meaning of data (*datum*) in science, is givenness; according to Christian theology of creation, the ultimate reason of the world is being the Creator's gift.

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