

## *Teaching invention and creation in the field of arts and technology*

Organised by

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**Institut National d’Histoire de l’Art - Université Paris I, 2 rue Vivienne, 75002 Paris  
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The purpose of this seminar is to understand, through educational institutions, methods and materials, the processes of invention and creation themselves. The main hypothesis is that education is the ideal field for studying invention and creation, as it is the place where practices, methods and inventive models are explained to achieve an objective of transmission, but also because it allows one to understand these processes in both their individual and collective dimension.

The deliberate choice of this seminar is to compare different ways of *undertaking* and *teaching* design in the technical, artistic and architectural fields. The contribution also comes from the subjects of the study. Overall, one can say that players, institutions and curriculums have been much more studied than the teaching methods themselves. Among these methods, formal lectures are better known than ‘workshops’, tutorials, ‘demonstrations’, ‘experiments’ and educational visits. But these types of teaching are essential for understanding the transmission processes of inventive methods in architecture, arts and technology.

The lack of interest in these different methods of teaching and their materials can be partly explained by the transient and complex nature of these subjects of study. What is said, drawn and built, the experiments, gestures and body movements often only leave fragmentary records. One must reconstruct them from indirect sources, painstakingly gather series of drawings, objects, books, recordings and various writings (class notes, autobiographies, etc.) that are scattered and poorly catalogued (collections of museums or schools, archives, etc.). The collection, inventory and classification of this corpus are one of the objectives of this study. It obviously requires close collaboration between museum and school curators and teacher-researchers.

The specificity of this seminar is to gather together researchers specializing in technology, art and architecture, but also people who actively work in these fields: architects, designers, restorers and curators. The goal is to better understand current teaching practices. Due to the recent proliferation of dual curriculums combining different disciplines (i.e. art history and restoration or architecture and engineering), it seems more important than ever to examine in their institutional framework the paradigmatic founding principles of the different pedagogies of creation and invention, in order to study their dialectical relationships, as well as their hybridization and mutation. In the context of a generalization of the moving image and digital imaging, the mutation of the tools for representation, design and delivery, due to the rapid success of computer science, which calls into question the very core of learning arts and technology, also calls for such an investigation.

## Programme

- **Jeudi 16 mai 2013 (9h30-13h. INHA- Université Paris I. Salle Jullian)**  
*Introductory session. Teaching creation: from practice to theory*
- **Jeudi 6 Juin 2013 (9h30-13h. INHA-Université Paris I. Salle AVD)**  
*Conventions, standardization, codification of the creative process*
- **Jeudi 26 septembre 2013 (9h30-13h. INHA-Université Paris I. Salle Mitry)**  
*Teaching and educational materials: a genetic approach*
- **Jeudi 24 octobre 2013 (9h30-13h, INHA-Université Paris I. Salle AVD)**  
*Places of creation*
- **Jeudi 5 décembre 2013 (9h30-13h. INHA-Université Paris I. Salle AVD)**  
*Orality, creation and invention: the figure of the teacher*

**Jeudi 16 mai 2013 (9h30-13h. INHA- Université Paris I. Salle Jullian)**  
***Introductory session. Teaching creation: from practice to theory***

One of the expected objectives of this seminar is to examine the methods and materials used to facilitate the process of creation and invention, between individuals and collective systems, both in technical (engineering schools, technical institutes, schools of applied arts) and artistic institutions (schools of architecture, design and restoration). This seminar is primarily a meeting point, in terms of issues and methodology, between the study of the heuristic methods specific to arts and technical education.

Guy Lambert, Eléonore Marantz, Valérie Nègre, Nadia Podzemskaia  
*Introduction*

Federica Rossi (Ecole normale supérieure de Pise et Institut d'architecture de Moscou)  
*Problèmes de formation de l'architecte en Russie entre XVIIIe et XXe siècle : questions de théorie et de pratique.*

Clemina Antonova (Institute for Human Sciences, IWM, Vienne)  
*Florensky's Lectures at Vchoutemas (1923-1924): Teaching Art History as "Synthetic" Art Criticism (1922-1924)*

Répondants : Alain Bonnet (Université de Grenoble), Nadia Podzemskaia (Centre de recherche sur les arts et le langage, CNRS-EHESS)

**Jeudi 6 Juin 2013 (9h30-13h. INHA-Université Paris I. Salle AVD)**  
***Conventions, standardization, codification of the creative process***

The objective here is to question the practices for the standardization and codification of the creative process. Individual genius is a skill that is not amenable to analysis. If inspiration cannot be taught, attempts at the codification and standardization of invention are nevertheless constant. One permanently tries to contain and limit inventive genius, whether explicitly or implicitly. One can thus identify creative practices that are part of codified frameworks, highlight their diversity; observe the relationships between individuals and collective creation systems. For several years, historians of technology have shown the prominent role that imitation plays in the process of invention. One can therefore ask oneself what role do copying, modelling and restoration play in the processes of invention and creation. The reproduction of ancient techniques and their re-manufacturing in order to perpetuate or restore them, whether they are material (restoration) or intangible practices (computer assisted 'modelling'), is an activity that not only helps understand technical and artistic objects and their history, but also has its own heuristic dimension.

Présidente de séance : Valérie Nègre

Christian Morandi (ENSA Paris Val de Seine)

*L'automatisation de la « conception architecturale" ou "l'automate architecte".*

Frédéric Morvan Becker (Ecole nationale supérieure d'architecture de Rennes)

*La pratique de l'imitation et de la copie à l'Ecole gratuite de Rouen*

Répondants: Sophie Penne (Ecole nationale supérieure de création industrielle), Estelle Thibault (Ecole nationale supérieure d'architecture Paris-Belleville)

**Jeudi 26 septembre 2013 (9h30-13h. INHA-Université Paris I. Salle Mitry)**  
***Teaching and educational materials: a genetic approach***

Overall, one can say that the study of manuals, treatises, manifestos and other artistic or technical texts was preferred to that of course materials for teachers or students (teachers' lecture notes, exercise subjects, etc.) and particularly visual documents. Thus, for example, Kandinsky's texts are often considered as manifestos or artist's writings, although they are the result of a dialogue with colleagues and followers of the artist. The example of the texts and drawings linked to architectural teaching is very informative in this respect. The courses about the theory of composition were mainly examined using treaties or published articles and not illustrations and graphics, the drawings made on the black board, or models shown during class. Yet one knows that a class, because of what is shown, through the use of physical or virtual objects such as images, models or tools, can take a more or less practical direction, serve to educate the eye and teach students 'how to see,' i.e. to transmit knowledge not verbally or in writing, but 'through the eyes.' The study of the role given at different times to drawings and images or other objects creating a mediation between verbal description and

reality allows one to identify fundamental changes such as the development of more abstract or, on the contrary, more material approaches.

Présidente de séance Nadia Podzemskaia

Guy Lambert (ENSA Paris-Belleville) et Valérie Nègre (ENSA Paris La Villette)

*Le cours de Jean Prouvé au CNAM à travers ses notes et celles de ses élèves*

Anna Sconza (Université Paris III Sorbonne Nouvelle)

*Léonard et l'enseignement de la peinture*

Répondants : Annie Bruter (Service d'Histoire de l'éducation) et Almuth Grésillon (à confirmer)

**Jeudi 24 octobre 2013** (9h30-13h, INHA-Université Paris I. Salle AVD)

***Places of creation***

It is paradoxically the teachings that are the most consistent with the university model (formal lectures), i.e. sometimes the less prominent, that have attracted the attention of education historians and sociologists (theory, geometry, sociology and history classes, etc.). The teachings delivered in the form of 'workshops,' tutorials, 'demonstrations', 'experiments' and educational visits have therefore rarely been studied. The written records of these teachings, often rare, indirect and fragmentary, partly explain these choices. But these types of teachings are essential for understanding the process of transmitting inventive methods in art and technology. This session will focus on the analysis of the places of education and what takes place there: workshops, agencies, educational visits, tutorial rooms, laboratories, museums. Yet little is known about the way things work or have worked in the 'studios' or 'workshops' where 'design' is taught, whether it is in institutions such as engineering or architecture schools, design or restoration schools, or fine art schools.

Présidente de séance Eléonore Marantz

- Andrea Leers (Université d'Harvard)

*Visites et pratiques d'ateliers dans l'enseignement de l'architecture au XXe siècle (titre provisoire)*

- Renaud d'Enfert (Service d'histoire de l'éducation)

*Dedans, dehors... Cadres matériels et pratiques pédagogiques de l'enseignement du dessin au XIXe siècle*

- Michel Aphenbero (Ecole des beaux-arts de Bordeaux)

*Teaching as art. The History of an Unsettled Studio. 1989 - 2013.*

Répondants : Christian Hottin (Direction des Patrimoines, ministère de la Culture) et Jean Da Silva (sous réserve)

**Jeudi 5 décembre 2013 (9h30-13h. INHA-Université Paris I. Salle AVD)**  
***Orality, creation and invention: the figure of the teacher***

In arts and technology education, oral transmission was generally widely abandoned in favour of written transmission. In the 'workshop', when facing their student(s), teachers do not invent their way of teaching, whatever the peculiarities of their motives. They fit into a framework of activities marked by rules that are often unspoken. The analysis of the 'frameworks' of this collective experience remains to be done in many institutions, which implies that sociological and ethnographic studies must be conducted. The authority related to speech and to the figure of the teacher, the interpersonal relationships and interaction arising from the face-to-face meeting between teacher and student as well as the process of mimicry are themes to develop. This session is therefore a reflection on the observation of the transmission of inventive methods based on what the main players do, that is to say from the very activity of teachers and students, and not of what they think or say they think.

Président de séance : Guy Lambert

Delphine Bière (Université Lille III)  
*L'Atelier de Fernand Léger à l'Académie moderne*

Bruno Reichlin (Université de Genève)  
*Aldo Rossi enseigne à l'École polytechnique fédérale de Zurich (1962-1975)*

Répondants : Pierre Wat (université Paris 1 Panthéon-Sorbonne) et Claire Brunet (ENS Cachan)