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Popular and Cultural Appropriations of Space: Towards a European Space Historiography

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PLAN

1. The Role of Space Agencies in the History of Space
2. Space through the Lens of Historical and Sociological Inquiry
3. Space as an Organizing Principle for Cultural Studies: a new Direction for Historical Research?

NOTES DE L'AUTEUR

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TEXTE

- 1 In 2006, historian Asif Siddiqi, a professor at New York's Fordham University and a specialist of Russian-Soviet space exploration, proposed a historiographical review of US space history.¹ This history was American in more ways than one: first, because it was largely written by historians or commentators based in the United States; second, because this history benefitted greatly from support from the National Aeronautics and Space Administration (NASA), responsible for space activities and safeguarding its heritage in the United States; and finally, because the object of study was the US space programme.²

- 2 Six years later, Alexander Geppert noted, in a brief historiographical review in the introduction to *Imagining Outer Space*,³ that the perspective A. Siddiqi had adopted, centred on the United States, was not only due to a biased and partial choice. It was also, to a certain extent, representative of a historiography primarily dominated by the work of American historians and political scientists who gave considerable space to American missions, actors and laboratories. While in the interval that elapsed between these two publications, research emerged on the Soviet Russian "case"⁴ and new countries in space,⁵ little treatment was given to Europe (and in Europe, France). Thus, the very purpose of the collective volume *Imagining Outer Space* was to include Europe in historical inquiry and it proposed an encompassing concept – that of "astroculture" – to study what 'Europe in space' had been.⁶ Before detailing this concept and discussing the decidedly cultural turn it seeks to bring to the fore, this article offers a brief historiographical review of the history of space and outer space activities, especially in the European context.

1. The Role of Space Agencies in the History of Space

- 3 Whether in the US or Europe, space activities have been and continue to be widely written about by the actors involved in developing space technology and science, "major witnesses" such as astronauts or scientists involved in national space programmes, or by experts with a largely normative discourse⁷. Among these actors, NASA has played an important role in developing a history that was long institutional and marked by concepts and ideas of "exploration", "competition", "technical progress" and "human spaceflight." This history has now moved closer to broader historical fields, be they political history, the history of technology, social history or cultural history.⁸
- 4 In comparison, the historical programme at the European Space Agency (ESA) since the 1990s has been much less ambitious. The European programme favours institutional history,⁹ centred on ESA and prior organizations, and history based on reports commissioned to document specific moments of European space policy or specific achievements.¹⁰ Later, the writing of national histories was added to

this programme, addressed mainly from a political angle that should eventually cover all the Member States of the Agency.¹¹

- 5 In France, the National Centre for Space Studies (CNES) has also not taken responsibility for a historical programme. Although it supports research in the humanities and social sciences through some research programmes and post-doctoral fellowships, and has made available tools and lists of heritage items to researchers, its action remains limited and fragmented.¹² As for commemorative events, such as 30th and 50th anniversaries, they have not led to the writing of historical narratives attempting to inscribe the institution's developments into a broader social, political and cultural context nor to explore the relationships among them. The book published on the occasion of CNES' 30th anniversary is akin to an institutional chronology documenting the achievements of the French Space Agency.¹³ Another published on the 50-year anniversary of the agency, although it is rooted in a cultural approach, deliberately dodges the problem of grand narrative by emphasizing the juxtaposition of viewpoints on aspects that are different, multiple and not limited to history.¹⁴
- 6 These works can be used as a foundation for research by future historians on how and why certain techniques emerged and why some politico-socio-technical compromises were made. Yet I would also add the small number of institutional histories documenting the achievements of certain laboratories that have played an important and permanent role in space technology and science in France,¹⁵ as well as publications of conference proceedings organized in the first half of the 2000s by the French Institute for Space history [IFHE].¹⁶ While all these studies share the characteristic features of a literature centred on the role of institutions and certain "pioneers," which are intentionally progressivist and disconnected from the sort of social, political, and cultural questioning that has marked the field of professional history in the last decades, they do constitute a written memory of the subject. As such, they provide essential documentation to then enable historians to work on this subject, which seems fragmented and undeveloped due to the lack of regular and ambitious investment by space agencies. Moreover, they are sources in themselves for analyzing the construction of the memory of the space sector.

2. Space through the Lens of Historical and Sociological Inquiry

- 7 In addition to the studies funded by space agencies seeking to establish or protect a memory and a heritage, although not quite a proper history, the space industry has also interested professional historians (and sociologists) who have found it to be a fertile ground for analysing broader dynamics. Although excluding here studies that focus on the contemporary geopolitical issues of space programmes,¹⁷ without doubt the most numerous, I would mention, in a relatively chronological order, studies that document the beginnings of French space policy, that take a political history approach marked by the history of international relations.¹⁸ Development in the space sector, which, at least until recently, favoured prototypes and technological sophistication, has drawn the attention of specialists in the economic history of contemporary France, because the space sector's specific characteristics have enabled a series of high-tech companies to emerge.¹⁹
- 8 Then, historians of science and technology have been particularly interested in this subject. In this field, which in recent decades has undergone many changes in its questions and methods and seen the growth of political, social and cultural studies,²⁰ approaches vary. Within a first subset related to the history of technology, research has focused on the emergence of technical innovations and their effects on a field or a science that is not necessarily space per se, such as satellites in the history of telecommunications²¹ or managing spatial data from instruments onboard satellites in earth sciences.²² Other studies have included the space sector in the history of earth sciences or environmental history, sometimes superficially, sometimes more thoroughly.²³ In this regard, however, historical studies of space technology (regardless of the angle from which they are done and the meaning we attribute to this term) occupy a rather small place while they may be of interest to historians of numerous fields: meteorology, geology, oceanography, and atmospheric sciences (all components of what has contributed to the emergence of "Earth System Science"),²⁴ as well as historians of astronomy (with subjects ranging from planetary science to astrophysics).²⁵

- 9 The study of space activities is not limited to analysing them in relation to contemporary scientific developments and the political, social and cultural conditions of their emergence (with an approach particularly marked by constructivism).²⁶ The study of space is also explicitly grounded in sociological analyses, attentive to the ways in which a scientific-technical field is organized and changes over time, depending on political, managerial or institutional transformations.²⁷ In addition, research on space activities is also connected to the study of social and cultural resonances that reach beyond the scientific and technical community.
- 10 Thus, a first approach is to study how space activities are mentioned, perceived or narrated in other settings, particularly through the intermediary of the media. The most promising studies in this field are not content to analyse media discourse as a direct reflection of space activities, but rather to consider how the media helps to forge collective representations of space and space activities, through its very professional standards (that differ from those in scientific and technical fields) and its particular requirements in terms of writing, funding, etc.²⁸ To this end, various approaches can be used and enrich each other: the history of space seen through the lens of science and technology intersects with issues in information science and communication, the history of the press, publishing, or television in building a cultural history of space.
- 11 Within this perspective, then, the field of investigation widens and the questions multiply, as do the chronological boundaries. Indeed, trying to make sense of space and attempts to reach space do not concern only scientists and engineers, and do not begin with the start of the "space age" (considered to start with the first Sputnik in 1957). Not only has there been both experimental and theoretical research for technical solutions to the problem of getting to space (choices made regarding propulsion and rocket navigation, etc.), along with efforts to legitimize such research to make sure that "space flight seems real" before it was possible;²⁹ but there have also been ways of imagining space that differed, more or less clearly, from legitimate scientific and technical approaches. Beyond the poetic, literary and artistic approaches that may be of interest more specifically to historians, the relationships that existed (or not) among space amateurs and space lovers, as well as ufologists and those who

claimed to have witnessed paranormal events, are also part of a historical and sociological study of space that seeks to reconstruct and analyze the diversity of space history's cultural components.³⁰

- 12 In all these studies, the interest in space may initially arise from questions concerning the organization of the scientific and technical community, and its relationship with what is commonly considered, in the context of science and technology research, as "society." Yet, a body of work is emerging that gradually but progressively chooses explicitly to examine the collective representations of space or space activities, as well as the appropriations and uses of concepts, data and images produced by the sector. In doing so, space has become an object for research that can resolutely claim to be cultural, even though these cultural dimensions remains fairly distant from cultural history which has, up until recently in France, rather neglected the fields of science and technology.³¹ Studies have recently been published in Europe in this direction that should promote further research in this area.

3. Space as an Organizing Principle for Cultural Studies: a new Direction for Historical Research?

- 13 In recent years, a programme entitled "The Future in the Stars: European Astroculture and Extraterrestrial Life in the 20th Century" was set up at the Freie Universität in Berlin to promote the history of space in Europe. It adopted a decidedly cultural perspective concerned with documenting and analyzing the ways in which space is and has been understood in Western Europe. In other words, this initiative seeks to understand not only space programmes' dynamics and changes over time by linking them with political and cultural developments and taking into account the role of "imagination,"³² but also the "cultural significance and societal repercussions of outer space and space exploration," by analyzing the diversity of human responses when trying to "render the infinite vastness of outer space conceivable."³³ To this end, members of the research programme,

headed until recently by Alexander C. Geppert, voluntarily embraced the broad concept of "astroculture."³⁴

- 14 Seeking to avoid potential misunderstandings arising from the use of the polysemic phrase "Space culture(s)," this programme seeks to study a "heterogeneous array of images and artifacts, media and practices that all aim to ascribe meaning to outer space" and to replace it within individual and collective imagination.³⁵ Thus, the concept of "astrofuturism," forged by De Witt Douglas Kilgore in his study of the speculative scientific and fictional narratives produced by scientists, engineers and writers of science fiction and popular science promoting space travel, is a subset of the broader concept "astroculture."³⁶ Research on "astroculture" means taking into account the diversity of human activities and concepts that have been created about space without granting predominance to institutional scientific and technical frameworks or elements that have contributed to the promotion of these latter fields. Therefore, the public's enthusiasm for space activities, amateur practices, as well as the development of science-fiction and stories about extraterrestrial life, and the debates on all these subjects, have just as much right to be included as objects for study.
- 15 Although extending the field will be a challenge to overcome, it is also, in the current state of research on space, an interesting proposition because it can bring people together or at the very least, create a dialogue between very different approaches that have hitherto been fragmented – as the brief presentation of the French historical and sociological works given above has undoubtedly shown. In so doing, space itself comes to the fore of scholars' inquiry, who can each contribute different readings with the potential to enrich each other. Moreover, this research programme on Europe certainly constitutes an important focal point, not only because it examines a previously neglected region in the literature, but also because it raises questions at a time when history, on space in particular but also history in general, is thought of in terms of "global history" or "connected history."³⁷ On the whole, then, and despite the difficulty to forge a unified field of historiography at the national or the European level, particularly interesting avenues for future research are opening up for scholars interested in the study of space.

BIBLIOGRAPHIE

Bibliography

- Andrews, James T., Siddiqi, Asif A. (eds.), *Into the Cosmos. Space Exploration and Soviet Culture* (Pittsburgh: University of Pittsburgh Press, 2011).
- Azoulay, Gérard, Pestre, Dominique (eds.), *C'est l'espace ! 101 savoirs, histoires et curiosités* (Paris: Gallimard, 2011).
- Belleval, Christophe, *Le Pilotage des Grands Projets de Haute Technologie dans une Organisation Centrée sur ses Compétences de Base. Le cas des Programmes spatiaux. Application à la Ligne de Produits Microsatellites 'Myriades' du CNES* (Université de Strasbourg, doctoral thesis, 2001).
- Blamont, Jacques, *Vénus Dévoilée. Voyage autour d'une planète* (Paris: Odile Jacob, 1987).
- Bonneuil, Christophe, Joly, Pierre-Benoît, *Sciences, techniques et société* (Paris: La Découverte, 2013).
- Borel, Denis, Sourbès-Verger, Isabelle, *Un empire très céleste : la Chine à la conquête de l'espace* (Paris: Dunod, 2008).
- Carlier, Claude, Gilli, Marcel, *Les trente premières années du CNES* (Paris: La Documentation française, 1994).
- Chanin, Marie-Lise (ed.), *L'école de l'espace. Le service d'aéronomie, 1958-2008. Histoire et science* (Paris: La Découverte, 2008).
- Cirac Claveras, Gemma, *POLDER and the Age of Space Earth Sciences. A Study of Technological Satellite Data Practices* (Paris: EHESS, doctoral thesis, 2014).
- Des premières expériences scientifiques aux premiers satellites* (Noordwijk: ESA, 2001).
- Dubois, Cathy, Avignon, Michel, Escudier, Philippe (eds.), *Observer la Terre depuis l'espace. Enjeux des données spatiales pour la société* (Paris: Dunod, 2014).
- Dupas, Alain, *Une autre histoire de l'espace*, 3 tomes (Paris: Gallimard, 1999).
- Dupas, Alain, *Demain, nous vivrons tous dans l'espace* (Paris: Robert Laffont, 2011).
- Fridenson, Patrick, Griset, Pascal (eds.), *Entreprises de haute technologie, état et souveraineté depuis 1945. Colloque des 8 et 9 février 2010* (Vincennes: Institut de la gestion publique et du développement économique, 2013).
- Geppert, Alexander C. (ed.), *Imagining Outer Space. European Astroculture in the Twentieth Century* (Basingstoke: Palgrave Macmillan, 2012).
- Geppert, Alexander C. (ed.), *Astroculture and Technoscience, History and Technology* n° 28, Routledge, London, 2012/3.
- Geppert, Alexander C., 'European Astrofuturism, Cosmic Provincialism: Historicizing the Space Age', in Geppert, Alexander C. (ed.), *Imagining Outer Space. European Astroculture in the*

- Twentieth Century (Basingstoke: Palgrave Macmillan, 2012), 3-24.
- Grevsmühl, Sebastian, *À la Recherche de l'Environnement Global : de l'Antarctique à l'Espace et Retour: Instrumentations, Images, Discours et Métaphores* (Paris: EHESS, doctoral thesis, 2012).
- Grevsmühl, Sebastian, *La Terre vue d'en haut. L'invention de l'environnement global* (Paris: Seuil, 2014).
- Griset, Pascal, 'L'évolution des télécommunications intercontinentales au XX^e siècle', *History and Technology* n° 8, 1992/3-4, 231-245.
- Guillemot, Hélène, 'Comment évaluer un modèle numérique de climat? Circulations et dialogues entre simulations et observations dans les pratiques des modélisateurs', *Revue d'anthropologie des connaissances* n° 3, 2009/2, 273-293.
- Guillou, Michel, 'Les débuts des télécommunications par satellites (1959-1969)', in Griset, Pascal (ed.), *Les ingénieurs des Télécommunications dans la France contemporaine. Réseaux, innovation et territoires (xix^e-xx^e siècles), colloque des 21 et 22 octobre 2010* (Vincennes: Institut de la gestion publique et du développement économique, 2013), 125-137.
- Harvey, Brian, Smid, Henk H.F., Pirard, Théo, *Emerging space powers: the new space programmes of Asia, the Middle East and South America*, London/Chichester: Springer/Praxis, 2010).
- Kilgore, De Witt Douglas, *Astrofuturism. Science, Race, and Visions of Utopia in Space* (Philadelphia: University of Pennsylvania Press, 2003).
- Krige, John, *Fifty Years of European Co-operation in Space. Building on its past, ESA shapes the future* (Paris: Beauchesne, 2014).
- Krige, John, Russo, Arturo, *Europe in Space, 1960-1973: From ESRO to ELDO to ESA*, (Noordwijk: ESA, 1994).
- Krige, John, Russo, Arturo, *A History of the European Space Agency, 1958-1987. Volume I The Story of ESRO and ELDO, 1958-1973* (Noordwijk: ESA, 2000).
- Krige, John, Russo, Arturo, Sebesta, Lorenza, *A History of the European Space Agency, 1958-1987. Volume II. The story of ESA, 1973-1987* (Noordwijk: ESA, 2000).
- La France et l'Europe spatiale* (Paris: IFHE Publications, 2004).
- Lagrange, Pierre, *La Rumeur de Roswell* (Paris: La Découverte, 1996). (http://fr.wikipedia.org/wiki/La_D%C3%A9couverte)
- Lagrange, Pierre, 'Les extraterrestres rêvent-ils de preuves scientifiques?', *Ethnologie française* n° 23, 1993/3, 428-458.
- Lagrange, Pierre, 'Propositions pour repenser la sociologie de la croyance. L'analyse des débats sur les ovnis et sur le programme Seti', *Prétentaine* 25/26, 2009, 272-317.
- Lamy, Jérôme, 'L'Express et l'espace, de Spoutnik à Apollo-11', *L'Information géographique* 74, 2010/2, 36-44.
- Lamy, Jérôme, 'Grandeur scientifique et politiques de l'espace : la création et le transfert du CNES (1958-1974)', *Revue d'histoire moderne et contemporaine* n° 58, 2011/1, 156-177.
- Lamy, Jérôme, 'What management Does to Space Projects: The Franco-Soviet

- Project ARCAD 3 in the Late 1970s', *Science in Context* 24, 2011/4, 545-586.
- Lamy, Jérôme, 'L'Express et l'espace après Apollo 11', *French Politics, Culture & Society* n° 30, 2012/1, 68-87.
- Lamy, Jérôme, Saint-Martin, Arnaud, 'Faire politique d'un système d'observation de la Terre : l'élaboration du programme européen Copernicus/GMES (Global monitoring for environment and security)', *L'Année sociologique* n° 63, 2013/2, 429-472.
- Laügt, Olivier, 'La représentation du fait spatial dans la presse quotidienne nationale française en 2006', *Communication* n° 28, 2010/1, 207-225.
- Launius, Roger D., 'The Historical Dimension of Space Exploration: Reflections and Possibilities', *Space Policy* n° 16, 2000, 23-38.
- Launius, Roger D., 'NASA History and the Challenge of Keeping the Contemporary Past', *The Public Historian* 21, 1999/3, 63-81.
- Lebeau, André, *L'espace en héritage* (Paris: Odile Jacob, 1986).
- Lebeau, André, *L'espace, les enjeux et les mythes* (Paris: Hachette, 1998).
- Lebeau, André, *L'engrenage de la technique. Essai sur une menace planétaire* (Paris: Gallimard, 2005).
- Lebeau, André, *L'enfermement planétaire* (Paris: Gallimard, 2008).
- Lebeau, André, *Les horizons terrestres : réflexions sur la survie de l'humanité* (Paris: Gallimard, 2011).
- Maurer, Eva, et al., *Soviet Space Culture: Cosmic Enthusiasm in Socialist Societies* (Basingstoke: Palgrave Macmillan, 2011).
- McCurdy, Howard E., *Space and the American Imagination* (Baltimore: The Johns Hopkins University Press, 2011).
- McDougall, Walter A., *The Heavens and the Earth: A Political History of the Space Age*, (New York: Basic Books, 1985).
- Moulin, Hervé, *La France dans l'Espace. Contribution à l'effort spatial européen (1959-1979)* (Noordwijk: ESA, 2006).
- Moulin, Hervé, *La Politique spatiale de la France, 1945-1975. Indépendance, innovation et dynamiques européennes* (Université Paris Sorbonne, doctoral thesis, 2012).
- Naissance de l'industrie spatiale française au début des années 60* (Paris: IFHE Publications, 2002).
- Nardone, Robert, *Analyse historique du traitement de l'information aérospatiale par le JT du 20h entre 1954 et 1989. Les techno-sciences entre « émerveillement et effroi »*, CNAM, ongoing thesis [provisional title]
- Neufeld, Michael J., *The Rocket and the Reich: Peenemünde and the Coming of the Ballistic Missile Era* (New York: The Free Press, 1995).
- Pasco, Xavier, *La Politique Spatiale des États-Unis : 1958-1995. Technologie, intérêt national et débat public* (Paris: L'Harmattan, 1997).
- Pestre, Dominique, *Introduction aux Science Studies* (Paris: La Découverte, 2006).
- Prochasson, Christophe, 'Introduction : Autour de l'histoire culturelle', *Les Cahiers du Centre de Recherches Historiques* [online journal] 31, 2003 <<http://>

ccrh.revues.org/305> accessed 6 July 2013.

Sebesta, Lorenza, *The Availability of American Launchers and Europe's Decision 'To Go It Alone'*, (Noordwijk: ESA, 1996).

Seibert, Günther, *The History of Sounding Rockets and Their Contribution to European Space Research* (Noordwijk: ESA, 2006).

Siddiqi, Asif A., *Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974*, (Washington DC: NASA, 2000).

Siddiqi, Asif A., 'American Space History: Legacies, Questions and Opportunities for Future Research', in Dick, Steven J., Launius, Roger D. (eds), *Critical Issues in the History of Spaceflight*, (Washington DC: NASA, 2006), 433-480.

Siddiqi, Asif A., *The Red Rockets' Glare. Spaceflight and the Soviet Imagination, 1857-1957* (Cambridge MA: Cambridge University Press, 2010).

Siddiqi, Asif A., 'Competing Technologies, National(ist) Narratives, and Universal Claims: Toward a Global History of Space Exploration', *Technology and Culture* n° 51, 2010/2, 425-443.

Siddiqi, Asif A., 'An Asian Space Race: Hype or Reality?', in Ghoshroy, Subrata, Neuneck, Götz (eds), *South Asia at a Crossroads. Conflict or Cooperation in the Age of Nuclear Weapons, Missile De-*

fense, and Space Rivalries (Berlin: Nomos Publishers, 2010), 184-198.

Vaïsse, Maurice (dir.), *L'essor de la politique spatiale française dans le contexte international* (Paris: Éditions des Archives contemporaines, 1995).

Vanpouille, Christian, *Le LRBA d'hier à aujourd'hui ou 60 ans de modernité* (Paris: Ministère de la Défense, 2006).

Varnoteaux, Philippe, *Les origines et les enjeux de la conquête de l'espace en France de 1944 (apparition du V2) à 1962 (création du CNES)* (Université de Reims Champagne-Ardenne, doctoral thesis, 2001).

Varnoteaux, Philippe, 'La part du CNRS dans les débuts de la conquête de l'espace (1945-1965)', *La Revue pour l'histoire du CNRS*, n° 6, 2002.

Varnoteaux, Philippe, 'La naissance de la politique spatiale française', *Vingt-tième siècle. Revue d'histoire*, n° 77, 2003/1, 59-68.

Varnoteaux, Philippe, *La France à la conquête de l'espace, de Véronique à Ariane* (Sceaux: L'esprit du livre, 2007).

Vertesi, Janet, 'Seeing like a Rover: Visualization, embodiment, and interaction on the Mars Exploration Rover Mission', *Social Studies of Science* n° 42, 2012/3, 393-414.

Vinck, Dominique, *Sciences et société. Sociologie du travail scientifique* (Paris: Armand Colin, 2007).

NOTES

1 A. A. Siddiqi, 'American Space History: Legacies, Questions and Opportunities for Future Research', in S. J. Dick, R. D. Launius (eds), *Critical Issues in*

the *History of Spaceflight* (Washington DC: NASA, 2006), 433-480. As for A. Siddiqi's work on Russo-Soviet space activities, studied in connection with the political, social and cultural specificities of that context, see A. A. Siddiqi, *The Red Rockets' Glare. Spaceflight and the Soviet Imagination, 1857-1957* (Cambridge MA: Cambridge University Press, 2010); *Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974* (Washington DC: NASA, 2000).

2 Among all the sources he used, A. Siddiqi mentions very few studies in languages other than English or that do not concern the United States. Some of the exceptions were the seminal work by M. J. Neufeld, *The Rocket and the Reich: Peenemünde and the Coming of the Ballistic Missile Era* (New York: The Free Press, 1995): this work was translated into German in 1997 in a first edition, but it is not available in French. See also X. Pasco, *La Politique Spatiale des États-Unis: 1958-1995. Technologie, intérêt national et débat public* (Paris: L'Harmattan, 1997). Even though focused on the United States, this latter volume is the work of a French research, member of the *Fondation pour la recherche stratégique* [Foundation for strategic research]. On the studies produced by this think tank, see the article by Guilhem Penent in this issue.

3 A.C. Geppert (ed.), *Imagining Outer Space. European Astroculture in the Twentieth Century* (Basingstoke: Palgrave Macmillan, 2012).

4 In addition to work by A. Siddiqi, see also J. T. Andrews, A. A. Siddiqi (eds.), *Into the Cosmos. Space Exploration and Soviet Culture* (Pittsburgh: University of Pittsburgh Press, 2011); E. Maurer et al. (eds.), *Soviet Space Culture: Cosmic Enthusiasm in Socialist Societies* (Basingstoke: Palgrave Macmillan, 2011); as well as some of the studies by Slava Gerovitch, specialist in cultural history of mathematics and cybernetics.

5 See for example, D. Borel, I. Sourbès-Verger, *Un empire très céleste: la Chine à la conquête de l'espace*, (Paris: Dunod, 2008) ; B. Harvey, H. H. F. Smid, T. Pirard, *Emerging space powers : the new space programmes of Asia, the Middle East and South America* (London/Chichester: Springer/Praxis, 2010). For a more historical approach, see also the work of A. Siddiqi who has recently studied the Indian space programme, A. A. Siddiqi, 'An Asian Space Race: Hype or Reality?', in S. Ghosroy, G. Neuneck (eds), *South Asia at a Crossroads. Conflict or Cooperation in the Age of Nuclear Weapons, Missile Defense, and Space Rivalries* (Berlin: Nomos Publishers, 2010), 184-198.

6 A. C. Geppert, 'European Astrofuturism, Cosmic Provincialism: Historicizing the Space Age', in Geppert (ed.), *op. cit.* 3-24.

7 For different French examples, see A. Lebeau, *L'espace en héritage* (Paris: Odile Jacob, 1986) ; A. Lebeau, *L'espace, les enjeux et les mythes* (Paris: Hachette, 1998) ; as well as a series of 3 monographs by the same author, *L'engrenage de la technique. Essai sur une menace planétaire, L'enfermement planétaire, Les horizons terrestres : réflexions sur la survie de l'humanité* (Paris: Gallimard respectively in 2005, 2008 and 2011) ; J. Blamont, *Vénus Dévoilée. Voyage autour d'une planète* (Paris: Odile Jacob, 1987); A. Dupas, *Une autre histoire de l'espace* (Paris: Gallimard, 1999); A. Dupas, *Demain, nous vivrons tous dans l'espace* (Paris: Robert Laffont, 2011).

8 For an introduction to the American historiography, see Siddiqi, 'American Space History...' *op. cit.*; as well as an older historiographical review by R. D. Launius, 'The Historical Dimension of Space Exploration: Reflections and Possibilities', *Space Policy*, n° 16, 2000, 23-38. As for NASA's historical programme, I should point out that it was created in 1959, that is, one year after the Space Act created NASA. On this history of this programme in particular, see R. D. Launius, 'NASA History and the Challenge of Keeping the Contemporary Past', *The Public Historian*, 21, 1999/3, 63-81. R. Launius was Chief Historian at NASA from 1990 to 2002.

9 J. Krige, A. Russo, *Europe in Space 1960-1973: From ESRO to ELDO to ESA* (Noordwijk: ESA, 1994); J. Krige, A. Russo, *A History of the European Space Agency, 1958-1987. Volume I The Story of ESRO and ELDO, 1958-1973* (Noordwijk: ESA, 2000); J. Krige, A. Russo, L. Sebesta, *A History of the European Space Agency, 1958-1987. Volume II. The story of ESA, 1973-1987* (Noordwijk: ESA, 2000) as well as the recent J. Krige, *Fifty Years of European Cooperation in Space. Building on its past, ESA shapes the future* (Paris: Beauchesne, 2014).

10 See for example, H. Moulin, *La France dans l'Espace. Contribution à l'effort spatial européen (1959-1979)*, (Noordwijk: ESA, 2006); L. Sebesta, *The Availability of American Launchers and Europe's Decision 'To Go It Alone'* (Noordwijk: ESA, 1996). It should be noted that all the reports published there are not necessarily written by professional historians. For example G. Seibert, *The History of Sounding Rockets and Their Contribution to European Space Research* (Noordwijk: ESA, 2006).

ESA established a bibliography in 2010 as part of this project [online database] http://apps.eui.eu/HAEU/OralHistory/pdf/ESA_history_bibliography_Dec%202010.pdf

- 11 National histories are published by Beauchesne, in the collection « Explorations » (see preceding note). To date, the volume on France is not yet available.
- 12 Among the research programmes in the humanities and social sciences at CNES, see the programme « Espace, innovation, société » which resulted in the publication by C. Dubois, M. Avignon, P. Escudier (eds.), *Observer la Terre depuis l'espace. Enjeux des données spatiales pour la société* (Paris: Dunod, 2014).
- 13 C. Carlier, M. Gilli, *Les trente premières années du CNES* (Paris: La Documentation française, 1994).
- 14 G. Azoulay, D. Pestre (eds.), *C'est l'espace ! 101 savoirs, histoires et curiosités* (Paris: Gallimard, 2011).
- 15 See especially C. Vanpouille, *Le LRBA d'hier à aujourd'hui ou 60 ans de modernité* (Paris: Ministère de la Défense, 2006) and M-L. Chanin (ed.), *L'école de l'espace. Le service d'aéronomie, 1958-2008. Histoire et science* (Paris: CNRS, 2008). The history of research laboratories is however under-developed and results from an anniversary of a commemoration. I should also point out that the history of the industries and companies working in the space sector also remains to be written.
- 16 *Des premières expériences scientifiques aux premiers satellites* (Noordwijk: ESA, 2001) ; *Naissance de l'industrie spatiale française au début des années 60* (Paris: IFHE Publications, 2002); *La France et l'Europe spatiale* (Paris: IFHE Publications, 2004). These volumes bring together the talks by « major witnesses », for people working in the sector, and a few historians invited to conferences organised by the IFHE. This Institute was created in 1999 to address the lack of research on French and European space activities. It has received funding from CNES and ESA. Its members are primarily people working in the space sector, who are interested in saving the memory and patrimony of the sector. At the moment, the IFHE seems to be rather inactive.
- 17 On this point, see Guilhem Penent's article in the current issue.
- 18 M. Vaïsse (ed.), *L'essor de la politique spatiale française dans le contexte international* (Paris: Éditions des Archives contemporaines, 1995); P. Varnoteaux, *Les origines et les enjeux de la conquête de l'espace en France de 1944 (apparition du V2) à 1962 (création du CNES)* (Université de Reims Champagne-Ardenne, doctoral thesis, 2001); P. Varnoteaux, 'La naissance de la politique spatiale française', *Vingtième siècle. Revue d'histoire*, n° 77,

2003/1, 59-68 ; H. Moulin, *La Politique spatiale de la France, 1945-1975. Indépendance, innovation et dynamiques européennes* (Université Paris Sorbonne, doctoral thesis, 2012). A version also exists for the general public (and focused on technical achievements with launchers) of a part of the work of Philippe Varnoteaux, *La France à la conquête de l'espace, de Véronique à Ariane* (Sceaux: L'esprit du livre, 2007). In an entirely different perspective, marked by political sociology of the sciences, see studies by Isabelle Gouarné, CNRS researcher, who works on the creation and the development of scientific diplomacy, as well as the history of East-West relations as part of the Franco-Soviet space collaboration.

19 P. Fridenson, P. Griset (eds.), *Entreprises de haute technologie, état et souveraineté depuis 1945. Colloque des 8 et 9 février 2010* (Vincennes: Institut de la gestion publique et du développement économique, 2013). In the field of management science, see C. Belleval, *Le Pilotage des Grands Projets de Haute Technologie dans une Organisation Centrée sur ses Compétences de Base. Le cas des Programmes spatiaux. Application à la Ligne de Produits Microsatellites 'Myriades' du CNES* (Université de Strasbourg, doctoral thesis, 2001).

20 On the changes in this field, see D. Pestre, *Introduction aux Science Studies* (Paris: La Découverte, 2006) and for greater focus on the sociological literature, D. Vinck, *Sciences et société. Sociologie du travail scientifique* (Paris : Armand Colin, 2007) and C. Bonneuil, P-B. Joly, *Sciences, techniques et société* (Paris: La Découverte, 2013).

21 See P. Griset, 'L'évolution des télécommunications intercontinentales au XX^e siècle', *History and Technology* n° 8, 1992/3-4, 231-245 and M. Guillou, 'Les débuts des télécommunications par satellites (1959-1969)', in P. Griset (ed.), *Les ingénieurs des Télécommunications dans la France contemporaine. Réseaux, innovation et territoires (XIX^e-XX^e siècles), colloque des 21 et 22 octobre 2010* (Vincennes: Institut de la gestion publique et du développement économique, 2013), 125-137.

22 G. Cirac Claveras, *POLDER and the Age of Space Earth Sciences. A Study of Technological Satellite Data Practices* (Paris: EHESS, doctoral thesis, 2014). This thesis, which is part of a recent trend in studying science and techniques, examines the implementation of an 'overall infrastructure' of information and data, and carefully analyses the technological practices involved in producing, managing and using satellite data.

23 See for instance S. Grevsmühl, *À la Recherche de l'Environnement Global : de l'Antarctique à l'Espace et Retour: Instrumentations, Images, Discours et Métaphores* (Paris: EHESS, doctoral thesis, 2012); S. Grevsmühl, *La Terre vue d'en haut. L'invention de l'environnement global* (Paris: Seuil, 2014).

24 One aspect that may help explain these sciences' relatively little interest in the space sector may be their approach inspired by an anthropology of the laboratory, and consequently their focus on the practices of scientists who are often distant, both spatially and conceptually (since the 'data' they process are eminently indirect and reconstructed) from the space sector. On this, see H. Guillemot, 'Comment évaluer un modèle numérique de climat ? Circulations et dialogues entre simulations et observations dans les pratiques des modélisateurs', *Revue d'anthropologie des connaissances* n° 3, 2009/2, 273-293.

25 The subject of space exploration, or what can be termed 'deep space,' has been addressed more by American historians than French ones (on the latter, see the article by Georges-Emmanuel Gleize in the current issue), even though the focused more on human spaceflight. See the historiographical review by Siddiqi, 'American Space History', *op. cit.*, and for more recent research, J. Vertesi, 'Seeing like a Rover: Visualization, embodiment, and interaction on the Mars Exploration Rover Mission', *Social Studies of Science* n° 42, 2012/3, 393-414.

26 For this, see the studies by S. Grevsmühl cited in note 23, which are far from an internal vision of the scientific field; they are written more from a cultural history perspective.

27 See J. Lamy, 'Grandeur scientifique et politiques de l'espace: la création et le transfert du CNES (1958-1974)', *Revue d'histoire moderne et contemporaine* n° 58, 2011/1, 156-177; J. Lamy, 'What management Does to Space Projects: The Franco-Soviet Project ARCAD 3 in the Late 1970s', *Science in Context* 24, 2011/4, 545-586 ; and J. Lamy, A. Saint-Martin, 'Faire politique d'un système d'observation de la Terre: l'élaboration du programme européen Copernicus/GMES (Global monitoring for environment and security)', *L'Année sociologique* n° 63, 2013/2, 429-472. See also an older (and with a less sociological tone) article by P. Varnoteaux, 'La part du CNRS dans les débuts de la conquête de l'espace (1945-1965)', *La Revue pour l'histoire du CNRS* n° 6, 2002, which relates the organisation of scholarly research with the earliest scientific and technical research on space in France.

28 J. Lamy, 'L'Express et l'espace, de Spoutnik à Apollo-11', *L'Information géographique* 74, 2010/2, 36-44; J. Lamy, 'L'Express et l'espace après Apollo 11', *French Politics, Culture & Society* n° 30, 2012/1, 68-87. See also O. Laügt, 'La représentation du fait spatial dans la presse quotidienne nationale française en 2006', *Communication* n° 28, 2010/1, 207-225; for an approach grounded in information and computer science, as well as a forthcoming

doctoral thesis: R. Nardone, *Analyse historique du traitement de l'information aérospatiale par le JT du 20h entre 1954 et 1989. Les techno-sciences entre « émerveillement et effroi »*, (CNAM, ongoing thesis). See also the seminar on the communication of images in astrophysics, organised by Jean-Stéphane Cernel as part of the PEPS Cybele Project, in Grenoble 21st November 2014.

29 This expression is the title of the second chapter of H. E. McCurdy, *Space and the American Imagination* (Baltimore: The Johns Hopkins University Press, 2011).

30 It is particularly the two latter categories of people that sociologist Pierre Lagrange analyzed in his broader study on parasciences. See especially P. Lagrange, *La Rumeur de Roswell* (Paris: La Découverte, 1996); P. Lagrange, 'Les extraterrestres rêvent-ils de preuves scientifiques?', (http://fr.wikipedia.org/wiki/La_D%C3%A9couverte) *Ethnologie française* n° 23, 1993/3, 428-458; P. Lagrange, 'Propositions pour repenser la sociologie de la croyance. L'analyse des débats sur les ovnis et sur le programme Seti', *Prétentaine* 25/26, 2009, 272-317.

31 Without drawing up an inventory of all the cultural studies that address scientific aspects, I would note here, following the review of this subject by C. Prochasson in 2003 which still rings true today, that "*l'histoire des sciences comme celle des concepts ne relèvent guère encore de l'histoire culturelle la plus convenue* [the history of the sciences as well as that of concepts is still neglected by more conventional cultural history]". In C. Prochasson, 'Introduction : Autour de l'histoire culturelle', *Les Cahiers du Centre de Recherches Historiques* 31, 2003. For this reason, and the subjects studied from this approach confirm it (see *infra*), this approach is closer to cultural studies as they are understood in the English-speaking world than cultural history *à la française*.

32 In reference to seminal work on the US case, by W. A. McDougall, ... *The Heavens and the Earth: A Political History of the Space Age*, (New York: Basic Books, 1985); McCurdy, *op. cit.*

33 A. C. Geppert, 'European Astrofuturism, Cosmic Provincialism', *op. cit.* 8.

34 The current programme now has four independent sub-projects: "The Future in the Stars: Astroculture and Transcendence in the European Space Age, 1942-1975" headed by A. C. Geppert ; "The Earth from Space: the Making of a Cosmic View in Early Twentieth-Century France and Germany" managed by J. Bruggmann; "Plausible Future: Rocket Enthusiasm in Ger-

many, 1920-1960", headed by D. Brandau, and "War and Peace in the Third Dimension: Europe and the Militarization of Outer Space in the 1970s" coordinated by T. Siebeneicher. See <http://www.geschkult.fu-berlin.de/en/e/fmi/astrofuturismus/projekt/index.html> [consulted on 18 Dec. 2014]. In addition to the collective volume *Imagining outer space*, op. cit., this research programme has also produced a thematic issue, coordinated by Alexander C. Geppert, entitled *Astroculture and Technoscience* published in the journal *History and Technology* n° 28, 2012/3.

35 A. C. Geppert, 'European Astrofuturism, Cosmic Provincialism', op. cit. 8.

36 D. D. W. Kilgore, *Astrofuturism. Science, Race, and Visions of Utopia in Space* (Philadelphia: University of Pennsylvania Press, 2003). Following A. C. Geppert, it should be noted that while Kilgore mentions the international roots of this astrofuturist tradition, he is not interested in this aspect of the question.

37 For an example of this line of questioning in a study on space, see A. A. Siddiqi, 'Competing Technologies, National(ist) Narratives, and Universal Claims: Toward a Global History of Space Exploration', *Technology and Culture* n° 51, 2010/2, 425-443. In this article, however, Europe is regrettably absent from the space programmes mentioned (American, Russo-Soviet, and the new 'space powers').

RÉSUMÉS

English

Until recently, in France, historical narratives dealing with outer space and space activities were mainly written by former professionals, keen on preserving the memory of this scientific and technological field. The paper aims at setting the historiographical and European context of recent historical works about outer space. It compares the emerging European historiography with the American one and points out the role of space institutions in its development. It also considers the different perspectives of French historical works about outer space and concludes by highlighting a cultural approach that seems to become more and more important in the European context.

Français

Jusqu'à récemment, les récits historiques sur l'espace et les activités spatiales émanaient principalement en France d'anciens acteurs du secteur spatial, soucieux d'en préserver la mémoire. L'article propose de resituer le récent développement de travaux historiques dans une historiographie euro-

péenne de l'espace qui est, elle-même, en émergence. Pour cela, il compare cette historiographie à celle, dominante sur le sujet, américain ; il s'intéresse aux rôles des institutions spatiales dans son développement ; il envisage les différentes perspectives développées plus particulièrement par les travaux français ayant abordé le domaine. Il se conclut en mettant en avant l'apparition d'une perspective culturelle qui semble gagner en importance dans le cadre européen.

INDEX

Mots-clés

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