

Dominique Cardon is a Senior Scientific Researcher (Directrice de Recherche) at the C.N.R.S. (Centre National de la Recherche Scientifique) in Lyons, France, whose long pursued research themes are the history and archaeology of textile production and dyeing. She is the author of several books on Natural Dyes, in French and in English, one of which received the “Art and Science of Colour Prize”, Bronze Award, of the L’Oréal Foundation in 2003. She has acted as the scientific director of several International Symposiums/Workshops on Natural Dyes in India and Korea, being awarded the UNESCO Medal “Thinking and Building Peace” for her contribution to these Symposiums on Natural Dyes. She is currently preparing the forthcoming “ISEND (International Symposium and Exhibition on Natural Dyes) 2011– Europe”, in collaboration with Mrs. Anne de la Sayette, director of a research and development institute on horticulture at Rochefort-sur-Mer, France. This event will take place in La Rochelle, France, from April 24th to 30th 2011.

CURRICULUM VITAE

Dominique CARDON

Born on April 13th 1947 in Paris, France.

Married with Charles BRÉMAUD ; 2 children : Iris, 31 years old, and Basile, 28.

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Affiliation :

Scientific Manager (Directrice de Recherche) at the C.N.R.S. (Centre National de la Recherche Scientifique, France) since October 2003 ; Scientific Researcher (Chargée de Recherche) since October 1991. Research unit : CIHAM / UMR 5648 “History and Archaeology of Europe and the Mediterranean World in the Medieval Ages”, Lyons, France.

Distinctions :

- 1993 : Prize “ANVIE/CNRS de la Valorisation”

a prize for applied research, granted for my collaboration with SERICA, a French SME dedicated to the production of silk garments and knitwear made with silk produced in the traditional regions of sericulture of the South of France. I worked for them as a consultant to create a collection of silk and silk-and-cotton woven and knitted textiles, dyed with natural dyes following medieval recipes collected from published and unpublished technical treatises and dyers’ recipe-books.

- 1995 : "Author" Prize of Scientific and Technological Culture

granted by the French Ministry of Higher Education and Research for my illustrated catalogue of the mediaeval textiles preserved in the South of France, *Fils renoués – Trésors textiles du Moyen Âge en Languedoc-Roussillon*, Ed. Musée des Beaux-Arts, Carcassonne, 1993.

- 1998 : Grand Prix Möbius France

for the CD-Rom *Le Secret des couleurs (The Mystery of Colours)*, Ed. Carré Multimedia, Paris. One of the co-authors, I was in charge of the sections on natural dyes and pigments, on the history of dyeing and on experimental archaeology (virtual reconstruction of the biological indigo-vat).

- 2002 : Clio “Special Prize of the Jury”

granted for the whole of my work on archaeological textiles.

- 2003 : “Art and Science of Colour Prize”, Bronze Award, of the L’Oréal Foundation for my book *Le Monde des Teintures naturelles*.

- 2006: UNESCO Medal “Thinking and Building Peace” for the scientific direction and coordination of “Naturally... International Symposium/Workshop on Natural Dyes-Hyderabad, India, 5-12th November 2006” organised by UNESCO and Crafts Council of India.

Languages :

- spoken : english, spanish.
- read : latin, italian, portuguese, german, dutch, scandinavian languages ; medieval occitan, catalan, toscan, genoese and venetian.

International research groups, membership :

Member of “think tank” of CTR (The Danish National Research Foundation's Centre for Textile Research), Copenhaguen, Denmark; Researchers into Dyes in History and Archaeology ; International Centre for the Study of Ancient Textiles / Centre International d'Étude des Textiles anciens (CIETA) ; North European Symposiums on Archaeological Textiles (NESAT) ; Medieval Dress and Textile Society.

Responsibility in associations, political activities :

Elected municipal concillor in my village, Cognac (Gard, France) since 1995 ;
Elected president of the Association Filière Colorants Naturels/Natural Colorants Federation from 1998 until the end of the Association in 2006.

Training :

- academic :

1968 – B. A. (Licence) in History (University of Paris, Sorbonne).
1968-1970 – Celtic Archaeology and Philology, University College Dublin, Ireland.
1987 – M. A. (Maîtrise) in History (University Paul Valéry-Montpellier II). Thesis on the production, trade and uses of red insect-dyes in Medieval Ages.
1990 – Ph. D. (Doctorat) in History (University Paul Valéry-Montpellier II). Thesis : "Technology of the Medieval Woolcloth Industry from the technical regulations of the north-western mediterranean countries (Languedoc-Roussillon-Catalonia-Valencia-Mallorca) - XIIth-XVth centuries".
1996 - Habilitation à diriger des Recherches, École des Hautes Études en Sciences Sociales (EHESS), Paris.

- technological :

1968-1970 : training in the techniques of spinning, dyeing and weaving of tweeds in various workshops of the West and North of Ireland.

1971: training in Perou. Initiation to the methods of analysis of archaeological textiles in Lima, with Pr.A.Versteylen-Coessens, who was then creating a department of studies and conservation of precolumbian textiles at the University of San Marco, and with Pr. Jimenez-Borga, archaeologist. Training in the techniques of alpaga spinning, dyeing with lichens, indigo and cochineal and weaving on the belt-loom (regions of San Pedro de Cajas, Jauja, Huancayo, Andahuaylas in the Andes) ; training in the techniques of cotton spinning and weaving on the belt-loom, of dyeing with the traditional tropical forest dye-plants in different Kampa villages of the Amazonian province of Satipo.

1972-1985 : creation of a dye- and weaving workshop in the Cévennes (South of France), dye-experiments and reconstitutions of ancient dye-recipes from Mediterranean and European written sources (Antiquity-XIXth c. AD) ; work for the Paris High Fashion (Chanel, Catherine McLean) : tweeds in wool or wool and silk, dyed with natural dyes ; fine textiles in cashmere, yack, camel and alpaga hair, silk, gold and silver threads.

1987 : training in TLC chromatography of natural dyes at the Laboratory of Botany, Phytochemistry and Mycology of the Faculté de Pharmacie, University of Montpellier I.

1989: training in the Schwebpe method of identification of dyes on ancient textiles and TLC, at Dr. Helmut Schwebpe's personal laboratory, Frankenthal, Pfalz, Germany.

1993: training into the techniques of identification of vegetable fibres, Institut Textile de France, Bagneux, near Paris.

1993: training in the Ryder method of archaeological wool-analysis, at Dr. Michael Ryder's personal laboratory, Southampton, U. K..

1996: further training in archaeological wool-analysis, at the Textile Research Associates laboratory, York Archaeological Trust, U. K.

Current research themes : History and archaeology of textile production and dyeing

History and archaeology of textile production

- The rise of the woolcloth industry in medieval Europe as a model of integrated economy generating democratic and social developments : preparation of a series of books (1st volume already published, see selected bibliography).

- Study and publication of series of archaeological textiles :

Prehistoric Europe and Central Asia ;
Antiquity : Roman Egypt, Silk Road civilizations (archaeological textiles from Xinjiang, China, and Kazakhstan) ;
Medieval Ages : Europe, Islamic Egypt.

History and archaeology of dyeing

- Research on, and publication of medieval to XVIIIth c. dye-recipe books and technical treatises (see selected bibliography).
- Coordination of programs of dye-analyses of ancient textiles (from Europe, Africa (Egypt, sub-Saharan Africa), the Middle East, Central Asia, Pre-Columbian civilisations, New Zealand) ; growing of dye-plants, breeding of dye-insects ; collection of natural dyestuffs and dyeing of reference samples.

Current consulting missions :

- since 2004: collaboration with the PROTA (Plant Resources of Tropical Africa) Foundation (University of Wageningen, the Netherlands) for programs concerning dye and tannin plants of Tropical Africa.
- since 2004 : scientific coordination of programs of development of the uses of natural dyes: in silk and vegetable fibre textiles in Madagascar for a group of NGOs (ONUDI, Mondo Giusto, SAHA program); as part of a program of conservation of the dry tropical forest of New Caledonia, in partnership with IRD (Institute of Research for Development).

Selected bibliography

Books

- 1990 - *Guide des Teintures Naturelles - Couleurs de la Nature, Nature des couleurs*, 400 p., Ed. Delachaux et Niestlé, Paris-Lausanne.
1990 - *Les Vers du Rouge - Insectes tinctoriaux (Homoptera:Coccoidea) utilisés dans l'Ancien Monde au Moyen Age*, 177 p., Vol.28, coll. Cahiers d'Histoire et de Philosophie des Sciences, Paris.
1993 - *Fils Renoués - Trésors textiles du Moyen Age en Languedoc-Roussillon*, 166 p., Ed. Musée des Beaux-Arts, Carcassonne. **"Author" Prize of Scientific and Technological Culture 1995.**
1999 - *La Draperie au Moyen Âge - Essor d'une grande industrie européenne*, 661 p., 222 ill., Ed. CNRS Editions, Paris.
2003 - *Le Monde des Teintures naturelles*, 586 p., 560 ill., Ed. Belin, Paris. **"Art and Science of Colour Prize", Bronze Award, of the L'Oréal Foundation**
2007 - *Natural Dyes*, 780 p. more than 500 ill., Archetype Books, London.

Edition of collective books

- 1998 - *Actes/Papers/Beiträge. 2nd International Congress «Woad, Indigo and other natural dyes: past, present, future*, D. Cardon, H. E. Müllerott (eds.), 248 p., Ed. Thüringer Chronik-Verlag, Arnstadt, Germany.
1999 - *Teintures précieuses de la Méditerranée : Pourpre, Kermès, Pastel / Tintes preciosos del Mediterráneo : Púrpura, Quermes, Pastel*, D. Cardon (ed.), 184 p., exhibition catalogue in french and spanish, Ed. Musée des Beaux-Arts, Carcassonne (France) / Centre de Documentació i Museu Tèxtil, Terrassa (Spain).
Publication in japanese in : *Senshoku Alpha*, n° 238, 2001 (1) ; n° 240, 2001(3) ; n° 242, 2001 (5) ; n° 244, 2001 (7).
2000 - *Archéologie des Textiles (des origines au Ve siècle de notre ère)* - Papers of the Lattes Symposium of october 1999, D. Cardon, M. Feugère (eds.), 290 p., coll. Monographies Instrumentum 14, Ed. Monique Mergoïl, Montagnac, 2000.
2005 - *Dyes and Tannins and Colorants et Tanins* – PROTA 3 (Plant Resources of Tropical Africa), P. C. M Jansen, D. Cardon (eds.), 216 p. + CD-Rom, PROTA foundation, Wageningen, Netherlands/Backhuys Publishers, Leiden/CTA, Wageningen.

Papers

- 1989 - "Mediterranean Kermes and kermes-dyeing", *Dyes in History and Archaeology*, 7, pp. 5-8.

- *Rouge, Bleu, Blanc: Teintures à Nîmes*, exhibition catalogue, Ed. Musée du Vieux Nîmes, pp. 55-78.
- "Per un albero genealogico del jeans: ritratti di antenati - Pour un arbre généalogique du jeans : portraits d'ancêtres", in : *Blu blue-jeans: il Blu popolare*, exhibition catalogue in italian and french, Ed. Electa, Milano, pp.15-31.
- "Les Échanges de Teintures rouges entre l'Orient et l'Occident depuis l'Antiquité jusqu'à la fin du Moyen Âge", *Bulletin du Centre International d'Étude des Textiles Anciens / CIETA Bulletin*, 67, pp. 27-35.
- 1990 - "Kermes : a dying dye", *Journal of the Society of Dyers and Colourists*, 106, May/June, pp.191-192.
- "Analysis of Mediaeval Red Dyes by HPLC, with special emphasis on the insect Dyes", *Dyes in History and Archaeology*, 8, pp. 22-31. Co-authors A. Colombini & B. Oger.
- 1991 - "Various types of black dyes in Mediterranean textile centres: an example of the chemical relevance of mediaeval guild-regulations", *Dyes in History and Archaeology*, 9, pp.7-9.
- 1992 - "From the mediaeval Woad-vat to the modern Indigo-vats: A brief History of the long decline of Woad seen through technical sources", *Beiträge zur Waidtagung*, Jahrgang 4/5, Teil 1, Arnstadt, 1992, pp.10-15, Tabl.1-2.
- "New information on the mediaeval Woad-vat", *Dyes in History and Archaeology*, 10, pp. 22-30.
- 1993 - "La preuve par l'expérience dans les techniques médiévales de teinturerie", *Actes du Colloque de Lille "Les procédures de preuve, de validation et d'évaluation dans les Sciences et les Techniques: une approche historique" - 11, 12 et 13 avril 1991*, Cahiers d'Histoire et de Philosophie des Sciences, Paris, vol. 40, pp. 303-310.
- 1994 - "Sensibilité aux couleurs des teinturiers d'autrefois", in *La Couleur - Regards croisés sur la couleur du Moyen Age au XXè siècle*, Ed. du Léopard d'Or, Paris, pp. 17-26.
- 1995 - "Yellow Dyes of Historical Importance: Beginnings of a long-term multi-disciplinary study, Part I: Yellow dye-plants in the technical and commercial literature from southern Europe: Italian, French and Spanish sources of the XIIIth-XVIIIth centuries", *Dyes in History and Archaeology*, 13, pp. 59-73.
- 1996 - "Yellow Dyes of Historical Importance, Part II. C. Andary, S. Prunac & D. Cardon: "Chemical Analysis of Weld and Saw-wort", *Dyes in History and Archaeology*, 14, pp. 33-38.
- 1998 - "Polyphenols and natural dyes: an historian contemplates chemistry", *Polyphenols 96*, INRA Editions, Paris, p. 45-80.
- "Textile Research: an unsuspected mine of information on some XVIIIth c. European textile products and colour fashion around the world", *Textile History*, 29 (1), p. 93-102.
- "Textiles de Maximianon/al-Zerqa : les plus anciens exemples de décors par réserve sur laine", *CIETA Bulletin*, 74, 1998, p.15-25.
- "Neolithic Textiles, Matting and Cordage from Charavines, Lake of Paladru, France", in : L. Bender Jørgensen, Chr. Rinaldo (eds.), *Textiles in European Archaeology. Report from the 6th NESAT Symposium*, Gotarc ser. A, vol.1, Göteborg (Sweden), pp. 3-22.
- "The Woad-vat : two previously unpublished sources", in : D. Cardon, H. Müllerott (eds.), *Actes/Papers/Beiträge, 2nd International Congress «Woad, Indigo and other natural dyes: past, present, future*, Arnstadt, p. 50-64.
- 1999 - "A la découverte d'un métier médiéval : la peinture, la teinture et l'impression des tentures et des tissus d'ameublement dans un manuscrit italien du Quattrocento", in *Les Tentures dans la civilisation médiévale*, F. Piponnier (dir.), *Mélanges de l'Ecole Française de Rome*, 111-1, p. 323-356.
- "Les Damassés de laine de Krokodilô (100-120 apr. J.-C.)", *CIETA Bulletin*, 75, p. 6-21.
- "De l'Espagne à l'Italie: hypothèses concernant un groupe de soieries médiévales à fond de losanges liserés et bandes de samit façonné", in *Soierie médiévales. Techniques & Culture*, 34, p.139-158.
- « Les teintures naturelles », *Pour la Science* (french edition of *Scientific American*), spécial issue on textile fibres and biological textiles, december, p. 50-55.
- "La Garrigue, monde de l'écarlate", *Études rurales*, 151-152, p. 33-42.
- 2000 - J. Smith, S. J. Thomsen, K. R. Markham, C. Andary, D. Cardon, « The Photostabilities of naturally occurring 5-hydroxyflavones, flavonols, their glycosides and their aluminium complexes », *Journal of Photochemistry and Photobiology A : Chemistry*, 136, p. 87-91.

- "Du «verme cremexe» au «veluto chremesino»: une filière vénitienne du cramoisi au XVe siècle" in : L. Molà, R. Mueller, C. Zanier (eds.), *La Seta in Italia dal Medioevo al Seicento*, Ed. Fondazione Giorgio Cini, Venezia, p. 63-74.
- « La Pourpre » in : *Parures de la Mer*, exhibition catalogue, Ed. Musée océanographique de Monaco, p. 113-117.
- "El Precio de la purpura", *La Aventura de la Historia*, 23, p. 96-101.
- 2001 - "On the road to Berenike : a piece of tunic in damask weave from Didymoi", in : P. Walton Rogers, L. Bender Jørgensen, A. Rast-Eicher (eds.), *The Roman Textile Industry and its influence*, Ed. Oxbow Books, London, p. 12-20.
- "Yellow Dyes of Historical Importance", Part III. D. Cardon, C. Andary, "New historical and chemical information on a wild mediterranean dye-plant, *Daphne gnidium*", *Dyes in History and Archaeology*, 16-17, Ed. Archetype Publications, London, p. 5-9.
- 2002 - R. Te Kanawa, S. Thomsen, G. Smith, I. Miller, C. Andary, D. Cardon, « Traditional Maori Dyes », *Dyes in History and Archaeology*, 18, Ed. Archetype Publications, London, p. 47-50.
- 2003 - « Dye crops », *The Oxford Encyclopedia of Economic History*, Éd. Oxford University Press, Oxford-Londres-New York, Volume 2, p. 116-118.
- « Silk for saint Andrew : newly discovered relic wrappings from mountain churches in the south of France », in : L. Bender Jørgensen, J. Banck-Burgess, A. Rast-Eicher (dir.), *Textilien aus Archäologie und Geschichte*, Wachholtz Verlag, Neumünster, 2003, p. 209-213.
- « Chiffons dans le désert : textiles de Maximianon et Krokodilô », in: H. Cuvigny (dir.), *La Route de Myos Hormos*, Éd. Institut Français d'Archéologie Orientale, Le Caire, vol. 2, chap. 6, p. 619-659, pl. IV-VI.
- 2004 - « Fashion in colors and natural dyes : History under tension », *Fashion in Colors*, exhibition catalogue, The Kyoto Costume Institute/The National Museum of Modern Art, Kyoto, 2004, p. 252-257, 298-300; reed. Cooper-Hewitt Museum, New York, 2005.
- « Pour une archéologie des textiles en Afrique occidentale et au Maghreb : genèse de l'outillage textile, étude des colorants », in A. Bazzana, H. Bocum (eds.), *Du Nord au Sud du Sahara : 50 ans d'archéologie française en Afrique de l'Ouest et au Maghreb*, éd. Sépia, paris, 2004, p. 307-314.
- D. Cardon, J. Wouters, I. Vanden Berghe, G. Richard, R. Breniaux, "Dye analyses of selected textiles from Maximianon, Krokodilô and Didymoi (Egypt)", in : C. Alfaro, J. P. Wild, B. Costa (éds.), *Purpurae Vestes - Actas del I Symposium Internacional sobre Textiles y tintes del Mediterraneo en época romana – Ibiza nov. 2002*, Consell insular d'Eivissa I Formentera-Universitat de Valencia, 2004, p. 145-154.
- 2005 - « Fashion in colors and natural dyes : History under tension », *Fashion in Colors*, exhibition catalogue, reed. Cooper-Hewitt Museum, New York, 2006.
- 2006 - « Haillons précieux : développements du tissage et de la teinturerie en Égypte romaine d'après de récentes découvertes de textiles archéologiques » in B. Mathieur, D. Meeks, M. Wissa (eds) *L'Apport de l'Égypte à l'histoire des techniques – Méthodes, chronologie et comparaisons*. Le Caire : Instiut Français d'Archéologie Orientale, pp. 45-62.
- 2007 - « La Moda en los colores y los tintes naturales : la historia bajo tension » in *Modachrome – El Color en la historia de la moda*. Madrid : Ministerio de Cultura, pp. 61-8.
- "Couleurs du temps: les teinturiers, maîtres et serviteurs des modes », in : *La Mode au Moyen Age*, Langeais : Institut de France/Château de Langeais/Société Kleber Rossillon, pp. 18-23.
- 2008 - J. Wouters, I. Vanden Berghe, G. Richard, R. Breniaux, D. Cardon, "Dye analyses of selected textiles from three Roman sites on the Caravan roads in the Eastern Desert of Egypt", *Dyes in History and Archaeology*, 21, pp. 1-16.