

THE DURANCE: INTERLACED WATERS: ART-SCIENCE COLLABORATIONS AND AUDIOVISUAL RESEARCH

Sapiega Jacques, Laboratoire Astram,
Aix Marseille Université E-mail:
jacques.sapiega@univ-amu.fr

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Abstract

"La Durance, parcours et regards" is the title of an audiovisual experiment (2003-2004) carried out in association with the laboratory "Environment, genome, evolution" (EGEE/Aix Marseille Université). Conceived at first as a scientific documentary, the project advanced mixing different approaches, including biology, biodiversity, eco-paleontology, history, geography, sociology and arts. The support of new digital technologies appeared a better way than a linear documentary to reproduce a multidisciplinary conception and the complexity of the Durance River.

This article comes from a presentation at the Leonardo's *Water is in the Air* Workshop that took place in June 2012.

The Durance has its source on the Franco-Italian border at the Col de Montgenèvre and after more than 320 kilometres flows into the Rhône near Avignon. During its descent, the river crosses through several landscapes and has what we could describe as "opposing

lives". Many spots are characteristic of the Mediterranean climate, but the first part of the course is typical of an Alpine torrent. The main feature of the Durance is its domestication and planning. Historically considered as a violent and unpredictable waterway, the Durance has been responsible for many dramatic floods and terrible summer droughts. Since the Middle-Ages, men have planned the river, especially in Provence, for agricultural activities. A very sophisticated irrigation system was conceived and built at the feet of the Lubéron mountain, and is still in activity. This system is also a human organisation, founded on an equal and democratic distribution of the water for different uses. Associations and organisations in charge of water management share old knowledge, handed down from generation to generation.

During the twentieth century, planning became increasingly important. The Serre-Ponçon dam, built between 1955 and 1961, is the greatest example of the deep transformation of the river, with a great deal of consequences. Downstream of the dam in particular, landscapes have changed, with the emergence of new industries (energy, tourism) and new agricultural systems. A new ecological

system has appeared, because of the control of the river, and biodiversity is now at stake.

We had to answer the question: what kind of audiovisual production could effectively show the different aspects of the river to a wide public? Often considered as a link joining north and south of the region, the Alps and the Mediterranean Sea, the Durance reflects contrasts and oppositions, but has also been used to build a regional identity.

"Interlaced waters" is a hydrological concept. It means that the river flows on the bottom of the valley with several arms, like different plaits, separated from each other yet sometimes all in the same bed. So we can say that the waters are plaited. This is a river type, and the Durance system is supposed to be the universal model. We started with this exact image to find how to describe and talk about the river.

It was 2003 and our conclusion was to experiment with the new possibilities of digital technologies with DVD. The advantages of this technology compared with a linear documentary movie were obvious: for the first time, it was possible to join and cross different points of view with authoring techniques.



Fig.1 DVD Menu Screen © Satis / Astram.lab

On the same support, the user can select a theme, each film dealing with an aspect of the river: history, country and landscapes planning, energy production (including distribution and water resources), biodiversity and environment, ethnology, climate and rural activities, landscapes (cognitive geography), political issues, land art and heritage. The restoration of the rafts, which transported wood, salt and all sorts of goods from the seventeenth century to the end of the twentieth century, stimulated a thought about the concept of navigation. Chris Marker, in his CDROM "Immemory"[1], compares memory to cartography. He sets up his "personal memory geography", draws the maps of it (according to epochs and countries) and suggests "guided tours" with "random navigations" between photographs, films extracts, texts, collages... The rafts of the Durance became a metaphor to explain how digital tools could be helpful to describe the complex relations between past and present. The computer navigation (switch from one film to another, using a personal exploration system), appeared as a way to show the traces of past in the reality and to reveal interactions between shapes and narrations. The fragmentary construction of the DVD appeals to the user's capacity to build its own itinerary.

To complete the device, we added five short films called "géocinéramas" produced with the spatial analysis service and the geographic information system of the region of Provence Alpes Côte d'Azur [2]: using different video software to calculate (with Bézier curve) journeys with a virtual camera. We re-

searched a scientific method to describe a geographical space by synchronising the commentary and the camera movements, controlling speed and camera elevation. (A sort of "do-it-yourself *Google Earth*", ahead of its time).

The links between themes and films suppose several levels of user activity. It became possible, for example, to match biodiversity and artistic creation. In "La Durance, les hommes" we can see a mysterious fish, rare and very hard to observe because of its nocturnal activity called the "Apron" (*Zingel asper*). It is considered as a marker of related water quality parameters [3]. In "Energy art" [4], Andy Goldsworthy, an important figure of the land art movement [5], shows how he finds beauty in the grey colour of the river. The relations between the two sequences are deep: they concern the invisible part of the life of the Durance, that science and/or art can reveal. These examples show that the river is the result of human spatial shaping.

The concept of spatial shaping became an interesting tool for us to understand and conceive a multimedia script based on a multidisciplinary approach.

This project was a sort of prefiguration. Digital technologies give us the possibility to conceive interactive scripts. Our project about the Durance would today probably be a web-documentary on the internet. Enrichment with texts, sounds, and photography has to be anticipated to allow navigation from one video to another, as if the users could build their own narration, choosing specific approaches (artistic or scientific). It could be both educational and

fun to visit the Durance area with the possibility to exchange information with other users, or to add some media to the documentary.

Another and recent digital technology called "transmedia" would also be a good way to deal with this kind of subject. Using smartphones or digital tablets with geolocation systems to inscribe sounds or video directly in reality opens up the possibility of a high level of interactivity. Experiences of "immersive games" or new kinds of audiovisual installations (soundscapes associated with video for "listening walkers") appear as devices in which image and sound, mixing past, present and future could find an innovative approach. In a way, cartography and multimedia artistic creation could be the two faces of current contemporary art.

References and Notes

1. Chris Marker, *Immemory*, (1997), CDROM, Centre Georges Pompidou.
2. see <http://www.crigepaca.org/geoportail.html>
3. « The apron *Zingel Asper* (L.) is an endemic percid species of the Rhône river catchment. This fish inhabits the grayling zone and the upper barbel zone (Huet 1959). At the beginning of the 20th century, the species was found throughout the Rhône river catchment but has since lost c.80% of its distribution range (Changeux & Pont, 1995) as a result of habitat fragmentation (Labonne, 2002), hydraulic disturbance and pollution (Mari, 2001) ». Cavalli L., Knight C.M., Durbec M., Chappaz R. & Gozlan R.E., 2009, "24 H in the life of a apron *Zingel Asper*. *Journal of fish biology*, 75 : 723-727.
4. Yann Marquis, *Energy art*, (2004), film (DVD *La Durance, parcours et regards* ». See the film on : www.cimalpes.fr/Films-de-montagne-752-854-0-0.html
5. The Scottish artist Andy Goldsworthy has designed a ten-day walking itinerary ("Refuges d'Art), near Digne, with the support of the Gassendi Museum and the Réserve Géologique of Haute Provence.



Fig.2 "Energy Art" © Satis / Astram.Lab