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## ARTHUR MAASS IN VALENCIA: THE GORGA SEMINAR

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EL SEMINARIO DE GORGA

Arthur Maass (1917-2004), professor of Government at Harvard University, was particularly interested in the comparative study of irrigation systems and wrote an important book presenting his conclusions (Maass and Anderson, 1978)<sup>1</sup>. The objects of comparison were three irrigation systems in the western United States and three in Eastern Spain: Valencia, Alicante and Murcia. His first extensive research trip on this project was carried out under a Fulbright grant in 1958-1959, after which he returned several times. While in Spain his initial local contacts were principally lawyers, including Vicente Giner Boira and José Latour Brotons<sup>2</sup>. In the fall of 1959, Maass, already conversant with the main historiographical literature and having concluded that the ordinances of irrigation canals were the documents most likely to yield the data he needed to decipher the collective objectives of irrigation communities, placed an advertisement in the Harvard *Crimson*, the student newspaper, seeking student assistance in translating “Spanish” documents. I was the student who came forward and the documents in question were ordinances of irrigation canals published in the early 19<sup>th</sup> century by François Jacques Jaubert de Passá. This was the beginning of my association with Maass, which lasted all my career.

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1 In this work Anderson contributed a computer program which analyzed features of irrigation systems in terms of a specific set of values, which included equity, efficiency, justice, and local control, among others. Maass wrote the narrative chapters. On Maass and irrigation, see also Glick (1995a).

2 Maass had made an exploratory visit to Valencia in 1954, when he met Vicente Giner Boira. A handwritten note about their conversation is preserved in Maass’s papers. I will return to this phase of Maass’s research in Valencia in a future article.

Here I present my travel diary for the dates on which Maass and I toured the Valencian country in late 1989 on our way to a meeting of the International Association for Water Rights in Alicante.

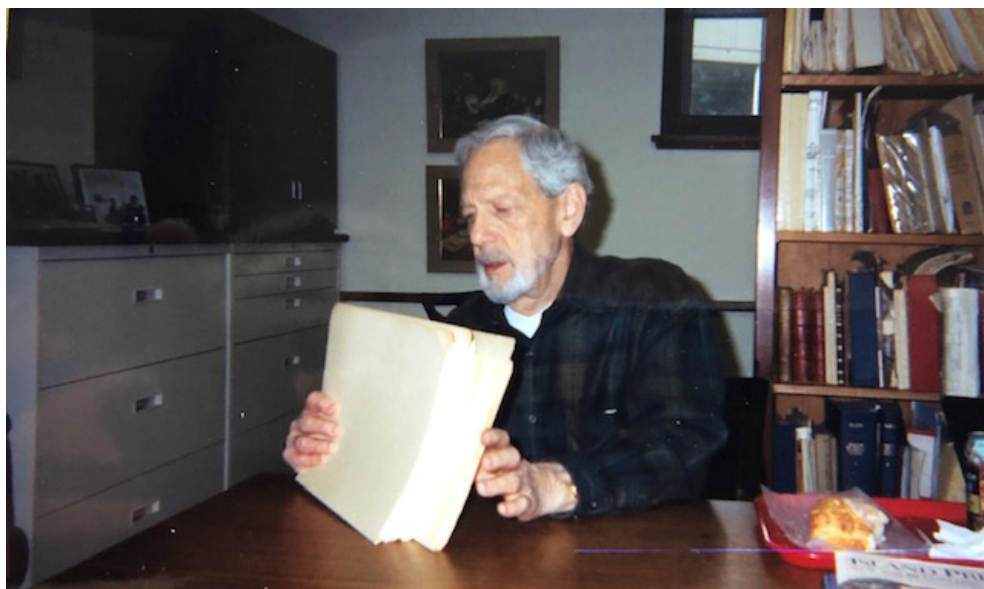


Figure 1. Arthur Maass, in his office at Harvard, ca 1995.  
Source: T. Glick.

#### THE DIARY

7 December 1989. In Madrid. I drove over to the Hotel Barajas where Arthur Maass was waiting for me. We set out for Valencia, stopping in La Mancha for a ham and cheese sandwich on delicious bread. A lot of talk about water business and Harvard gossip. From Villena to Gorga it was very foggy and slow driving. At home we stoked the fire; he read me a draft of the talk he plans to give before a showing in Valencia of the *Milagro Beanfield War*—very effective, speaking mainly of the conservancy districts and conflict between agricultural developers and traditional *acequias* which runs parallel to the Anglo-Mexican conflict<sup>3</sup>. I prepared dinner and we turned in rather early. Arthur, extremely fastidious at 73, carries a plastic urinal in his valise so he won't have to trudge around at night in strange places.

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3 There is a handwritten draft of the speech (never delivered) in my files, Arthur Maass Duplicate Archive, folder 28. The 1988 film was based on John Nichols' 1974 novel of the same title.

8 December 1989. In Gorga. Maass trip to Cocentaina and Alcoi to show Arthur the lay of the land. This interrupted his line-by-line exegesis of my Alicante paper. In Cocentaina, we went into the church next to the palace and noted that a lot of it was painted in false rock (granite, not marble), including wall panels of *faux* granite and the ceiling painted to look something like paving stones. On the way back, we drove through the huerta of Cocentaina where I noted that some of the canals I'd video'd two years ago had been replaced by pipes. I looked into an *alcavón* and detected a *respiradero*; I could see the light shining down onto the water.

### I JORNADAS HIDRÁULICAS DE GORGA

At 4 PM Vicenç Rosselló and Joan Mateu, geographers at the University of Valencia, arrived. Rosselló had wanted me to meet Mateu, the physical geographer in Karl Butzer's Castellón team. So we convened the "I Jornadas Hidráulicas de Gorga," with Arthur in attendance. I wanted to know what the significance, if any, was my data on *norias* of La Mancha from the 1918 report and whether making maps of the basis of it would reveal anything (Jesen, 1930)<sup>4</sup>. Rosselló thought not, because although *norias* were mechanically similar, unless we knew more about the hydrological structure of each well or district we would be comparing different things. Mateu was not so sure, and thought that a test case could be run taking one *partido judicial* in Castellón and counting *noría* sites there. Some of the discussion:

Mateu: in Castellón, *noría* plots were very small. In, for example, Albocàsser and Morella, they were found in *secano* but with little *noría* gardens. Not important in the larger picture but very important for household economies. One day a week the wife would wash the clothes and the husband would run the *noría*.

Rosselló: In Mallorca most *norias* did not pass through the *malacate* phase; they were still wooden when phased out. *Norias* also found in zones intermediate between *regadio* and *secano*.

Maass: advantage of *norias* is that you can irrigate and also *lower* the water table at the same time.

Rosselló: some canals began as drainage ditches and ended as irrigation canals and vice versa (depending on water table characteristics; this part of the discussion had to do with waterlogged irrigated districts like the medieval *marjals* of Valencia and strategies to prevent it).

Mateu: In *marjals* (*extremals*) in the north of the Valencia huerta (*jusans* of Moncada Canal) the earliest irrigation was from wells to lower the water table; once the Moncada Canal was built those areas became swampy again (see article by V. Sales Martínez in *Cuadernos de Geografía*, 44, pp. 221-234). Same kind of sequence in Ribera del Júcar. Antonio José Cavanilles describes *despoblados* of Júcar and shows them on a map. This map in fact describes the zone of Islamic irrigation before James I built the Real Acequia.

General Discussion: *paradas/ rafas* served same purpose as *norias*: to irrigate higher lands. You see this in Algemesí where *norias* were used for this purpose.

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4 I had at the time a complete listing of the *noría* sites from the National Map Gazetteer.

Rosselló: not much coincidence between the two irrigation styles (surface and *norias*). In Mallorca, *aigua de greixina* (grease): water that seeps into a *capa freàtica* and then you raise it with a *norja*. Airport of Mallorca formerly a swamp. Water is now 21m beneath the surface. Pumping changed entire nature of groundwater distribution.

The biggest conflict in the debate over the 1985 water law was balancing interests between surface and groundwater use. Public control of groundwater had never figured in water law before. It was completely privatized. (Maass added that groundwater law is related to the law of wild animals, like a fox crossing your land is yours.)

Mateu: Guichard picks Rugat and generalizes from it to all irrigation including that of the Valencian huerta (Bazzana and Guichard, 1982)<sup>5</sup>. For Ribera del Júcar, he picks Antella, a very marginal place.

Rosselló: The correct name of the Serpis is the Riu d'Alcoi. The correct name of Muro is Muro de l'Alcoi, the wall of the Riu d'Alcoi. Says maybe 7-8,000 mills in País Valencià. Tribunal de las Aguas is erudite name, dating only from the post-Romantic 19th century. The popular name was always Tribunal de la Llongeta. Vicenç said that he had a translation of Markham's report on Spanish irrigation in the works. I might be the *prologuista*, as eventually happened (Glick, 1996). I may have already said what I have to say—in *Irrigation and Society* (Glick, 1970, pp. 158-160).

Dinner at Ponderosa with Arthur and Manolo Olcina (whom we quizzed, with mixed success, on the intricacies of olive raising. The main conclusion is that olives are impervious to every kind of pest and the crop hardly ever fails).

December 9. Drove with Arthur to Gandia where we met Pep Gisbert and Ferran García at El Rebollet restaurant. Field notes follow:

There were five sugar mills and four flour mills off the acequia mayor of Oliva till 16th century. Molí del Mig (appears in 15th century documents) in La Safor. Four *señorios*: Bayren, Palma, Rebollet and Vilallonga. Even here, farmers would rather pay to pump than wait for a turn (Maass). They had balsas and wells to give the water some more force, but mills were horizontal. *Balsa* of Molí del Mig is really just a widening of the canal as it approaches the mill. Before the mill, there is a 25-50-25 *partidor*.

*Partidors* have vaulted roofs and locked doors. *Partidors* generally located near mills. L'Alcudiola has a vaulted *partidor* (1849, date of rebuilding) and mill. Turn still holds on *acequia* mayor from top down. But irrigators now water on demand by asking *sindicato* to turn the pump on (pumped water, and also Beniarrés reservoir water, delivered in separate channels).

*Acequia* water at this mill drops about 30 feet into a kind of well and then flows under mill (*pozo vertical* del Molino). The *acequia* has *escorredors* to let out excess water (if any) before the drop into the mill well. A sugar mill that switched to wheat in the 18th century. Every *alqueria* (*morisca*) had its own mill. It was an *enginy*; *trapigs* were manual (animal powered). Sugar millstones were conical (like those of *almasseras*?) and mills had only one millstone for macerating the cane. I went down with a lantern to see where the *rodezo* had formerly been mounted, in a vaulted chamber with a hole in the middle

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5 Comment in Glick (1995b, p. 84.)

for axle and chute where water entered from the *pozo*. *Rodeznos* were wooden; whole assemblage was wood except for grinding stone. This mill ceased working about 35 years ago.

Worker who showed us around let me take a *rodezno* paddle and a 19th century wooden wheel that fitted somewhere into a pulley system. By mid-17th century sugar was in decline. Madeira sugar ruined them. When sugar went out, a lot of land became *secano* and wheat was grown until irrigation reintroduced in late XIX with oranges.

El Moli Capità (Trapig d'en March) was in second basement, fed by *assut*. Medieval mills and *trapigs* were not rural; they were associated with alqueries.

Casa Fosca *partidor*; also vaulted; the oldest divisor, not restored. *Boveda* with *morisco* construction technique. One large canal and one small one flow out. To enter, you must walk in the acequia. Casa Clara divisor; one section of housing still of *tapial*; brick work from xviii (*gòtica de la Safor*). Casa Clara is huge; seems (at least originally) to have been a 3:2 divisor. Inside the water flows through a comb-like structure with teeth, similar to the Canarian *cantoneras*. Right side has 10 teeth, left 14. Today, on left, 10 slots blocked off. You could see how the teeth were used to support posts to close them off. Hence teeth are also measures.



Figure 2. Signage for two water divisors in Potries (Valencia).

*Ataonas* were used to lift water 20-30 cm from canal. *Ataona* is a balanced trough. At Casa Clara I picked up a Roman *terra sigillata* sherd apparently from nearby villa site.

Potries. In city hall, a pile of Roman sherds recently dug up due to highway project in vicinity of old Roman road. A lot of wine amphora fragments. On seeing this, Pep made me hand over the *terra sigillata* bit to the mayor, José Aznar.

We went to the house, now empty except for one kick wheel, of the last potter in town. A huge wood-fired kiln. You go down some stone steps to the fire chamber. They are going to make a pottery museum there. The house next door was also of an *alfarero* and they shared the kiln.

Number of *files* in each Casa is given in the *Encyclopedia Valenciana*, s.v. *Potries*. Calabacins: gourds on sticks, the most primitive water-lifting device, not levered, survived to this century. Assut d'en Carrós. A huge structure dating to the middle ages, recently rebuilt (to raise water level and store it so farmers won't have to irrigate at night) so that all the 17<sup>th</sup> century stonework is now covered over. The diversion into the acequia takes place in a house and water flows out underground. You look down through a *respiradero* made of 15-16<sup>th</sup> century brick work. Technically the dam is a *contraembalse*, like that of Murcia.

Gisbert is excavating *norias* in Dénia inside houses (used for baths). No surface irrigation but a lot of *norias* there, as recorded in a ditty from La Safor: "*Me cague en Dénia. I en la terra que rega en sènia*".

In *marjals* of Oliva, *ataonas* and *norias* to lower the ground water level. L'Enginy d'Oliva siglo XVI (a ceramic tile panel showing vertical undershot wheel moved by water in a canal. The Sequia Major of Oliva flows under the Carrer Major and its extension the Carrer de les Moreres (after trees originally planted on either side of the sequia; it had sugar, then flour, mills along its east bank. Plaça de la Bassa, where water stored to serve all the mills along Carrer Major.

December 10. Drove down Xixona road with Arthur towards Alicante around noon. For the first time in my experience the atmosphere was so clear you could see the sea from the mountain road above Xixona, with the high rise apartments of Santa Pola in silhouette.

We parked near the square in Sant Joan and proceeded to the Bar Pepe, the bar where the water auction used to take place, and which is documented in Arthur's book (Maass and Anderson, 1978). We found a talkative fellow who told us that the auction ceased some 3 to 4 years ago, that most of the huerta has been lost to development, and that in any case the Alicante *sindicato*, plus Tibi water and the old Riego de Levante system had all been absorbed by the Mancomunidad. I told Arthur that his book had now ceased to be a political science book, but rather one of history.

#### INTERNATIONAL ASSOCIATION FOR WATER LAW (IAWL), ALICANTE

Arrived at the Meliá, the IAWL meeting headquarters, and registered for the meeting, receiving in turn as giant case of papers and a couple of books published by the Generalitat. Adela (Vicente Giner Boira's secretary) greeted me effusively. Vicente was upstairs in a meeting and she was helping the *síndics* of the Tribunal of Waters to register. Arthur and I agreed we couldn't imagine how those farmers were going to sit through hours of turgid scholarship. I told Adela that Arthur was disturbed that, having gotten his movie and lecture scheduled, his name nowhere appears on any of the materials handed out. "Vicente will raise a fuss" (*hacer la bronca*)," she assured us. "And it won't be the first time!" We walked into the old city to a restaurant called "Quo Vadis" and had some tapas in lieu of lunch.

In the evening, I then wrote up two summaries of my water law paper, one in Spanish and one in English, with slightly difference emphases, intending to read both.

December 11. I deliberately skipped the inaugural act, which is always boring, and arrived at the Hotel Meliá around 11, just in time for coffee. The simultaneous translators asked me for a copy of my remarks and I immediately recognized the lady from Teruel who had praised my Spanish. Simultaneous translation made my dual summaries redundant, so I scotched the Spanish version (after noting that most of the audience at my session were English speakers) and added a final paragraph to my paper to make it at least a bit more relevant to my session (evolution of law and administration of hydraulic resources). The summary now ended: "These [Spanish rights] cases illustrate what can happen in a post-colonial situation where the legal community of the successor state has lost all contact with the pre-existing cultural substrate".

The morning session was taken up by a number of verbose water management officials who, along with lawyers, make up the majority if IAWL members. I kept running downstairs to the Spanish law session and checking in with Arthur to see if anything interesting was up. Angel Menéndez Rexach had said (following Arthur's notes) that the Laws of 1866 and 1879 were based on the Valencian, not the Castilian model. The former anticipated greater public intervention and public domain nature of surface water. The law of 1985 based on the unity of water (surface and ground water) in the public domain. It consolidated renewable ground water to principles for surface water<sup>6</sup>. Arthur then told me that Alfredo Gállego's paper (which I missed) on public domain of waters supported my view on the public nature of patrimonial water (the heart of my assertion that Luis Cabrera's doctrine was wrong). After *that* session finished I did some simultaneous interpretation for Arthur who wanted to find out from Tomás Ramón Fernández whether the new *reglamento* allows any latitude for the local communities' input in the drawing up of their own ordinances<sup>7</sup>. He said the new law in effect decrees what the ordinances shall contain and leaves scant discretion for local communities. In effect this is the end of local autonomy and, indeed, of what is left of traditional operating procedures. The 1985 law made all water a *bien público* (i.e. socialization of water).

In the afternoon session, I sat through more windy presentations by French officials waiting for my turn to come up. In one comment from the floor, however, a Mexican engineer named Eduardo Viesca made a long statement in which, in passing, he had alluded to how the Mexican revolutionary constitution of 1916 had asserted national control over patrimonial water in order to socialize it, that is, the embodiment of Molina Enríquez's (1909) spin on the Cabrera doctrine<sup>8</sup>. I began to get nervous about having slammed the Mexican (Cabrera) doctrine and so, first, I edited out the strident language and then I went over and introduced myself to Viesca and had him look over the passage on Cabrera in my full text. I asked him to write to me if he found any serious misconception.

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6 Menéndez Rexach was on the committee that drafted the 1985 Spanish Water Law.

7 Professor of Administrative Law at UNED; worked on statute of autonomies.

8 Commenting on Luis Cabrera (1876-1954), who argued that in the Spanish Empire all water was private, because owned by the king. The Mexican revolutionaries used this doctrine to ease the socialization of privatized water courses.



Finally, my turn came<sup>9</sup>. I had not really expected to get a rise at all from this particular crowd. But I was wrong. First, a marvelously witty Australian lawyer named Sandford (Sandy) Clark of the University of Melbourne said that the history of American jurisprudence is replete with misinterpretations of other people's legal traditions—i.e. the misinterpretation of British navigation law in *Gibbons vs. Ogden*. It tells much about American law, said he, that medieval historians are employed to decipher it! “Who else will employ us?” I said, amid general mirth. Then a Frenchman named Laugierie of the WHO, picking up on my last sentence, said it was a common experience in some African countries to misinterpret French law, citing the current fashion of privatization of water law. That is a misinterpreted view of colonial practice, as it is understood today, not what the law originally intended. Water was so highly regulated by the French that private water was virtually public.

After my talk, there was a break and Helen Ingram of U. Arizona introduced herself. We talked a bit about Ted Downing (1972) and the importance of the Long Beach conference, of which my San Antonio monograph was a part. She asked me if anything important had happened in (social studies of) irrigation since. I said I thought the Hunts' *Current Anthropology* article had ended a discrete period and that the only interesting theoretical piece I had seen since was the draft Elinor Ostrom had sent me on hyperstable institutions (Hunt and Hunt, 1976)<sup>10</sup>. Later, Arthur poo-poo'd this on the phone. Ostrom, he explained, was the exemplar of the “rational choice” model. He suggested that she use a multiple objective model, but she stuck to a single objective—that irrigators choose the most economically rational option, even though in hyperstable systems they may *appear* not to be exercising any choice.

Arthur appeared and we bantered a bit with Clark who mock apologized for having been “so naughty” in his remarks. On the contrary, I said, that had made my day.

Maass: And in Australia, you have interpreted British Common Law correctly?

Clark: We're holding the line down there!

Arthur had told me that Giner had led a noisy protest against the 1985 law in the name of traditional irrigation communities. I ran into him and so remarked. The man who was with Vicente said that Giner was “the Curro Romero” (the most artistic bullfighter) of water law lawyers!

December 14. Arthur called. His talk was cancelled because the city officials thought that would make the movie too late and no one had the guts to tell him: they sent an *azafata* [porter]. He said Sandy Clark had more style than substance in his talk. His game is to write water codes for new nations. His main interest in customary structures, therefore, is to get rid of them!

#### CONCLUDING OBSERVATIONS

In all its features, this was a typical Maass enterprise. He liked to study geographical features, but not too closely. He did not like field work as conventionally understood. To my annoyance, he found

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9 My paper was titled “Irrigation Rights and the Limits of Civil Law in the American Southwest in the Spanish Legal Tradition”.

10 I do not remember which draft Ostrom sent me.



water mills boring and refused to enter them! He liked, rather, to debrief people: farmers, on the one hand (he wanted to learn how they experienced the day-to-day practice of irrigation and what the external controls on it were), and lawyers and law professors, on the other. Regarding the latter, we can appreciate his uncanny skill in identifying (as at the IAWL meeting) significant players in administrative law. But if the Alicante meeting revealed Maass's *modus operandi*, the "Gorga Congress" revealed that of Mateu, who took charge of the conversation and directed it to what he regarded as the significant points to be explored. Mateu's "table talk" is always informative. Both as colleague and friend, Joan Mateu has been exemplary.

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