

Some catchy title, e.g., this one

Conversation with Christian Goichon about mediators of science

Vladimir Salnikov

These days we hear more and more discussions about the role of “popularization” of science and various general-audience activities. This article is inspired by several short conversations that I had with Christian Goichon on various occasions. Christian is doing this professionally (at least part-time), but his trajectory is different from the usual “researcher who decided to do some outreach.” At some point I thought that telling his story could be useful and inspiring for young scientists and educators, so I told him: “let us sit down and talk”. Below is the transcript of that conversation (or me listening to the story).

VS: Once I was giving a talk, a serious one, on mathematical physics, but doing it a bit my style, joking¹ from time to time (which was needed, otherwise after lunch people fall asleep). And then, as a feedback, a colleague of mine says: “Do you think that sometimes comedians after the show gather together and say, ah, I saw you on stage, I think you could be a good scientist?”

CG: I will not exactly answer this question, but I can tell you that I have never learned so much about science and research as since I became a comedian.

VS: Exactly, you kind of went the other way. Tell me this story.

CG: It often happens to me that, after a show where I have presented some totally incredible objects/subjects, people come to me and say, “Monsieur,² you could be a wonderful teacher, I would love to go to your classes.” And another anecdote: I have a show called “Sea, Sex et Oursins” [sea urchins], that I was doing within the framework of a street festival, so oriented for a general audience. After the show a lady comes to me and says, “Oh, you are an excellent scientist. And this book you wrote, where could I get it?”. And the book does not exist, it was part of the show. So, I not only learned some science around what I do, but also some

“codes” of scientists, the way they function, the way they address the audience, some “mechanics” of the meeting.

Now I am old [smiles], but when I was young, I did a “Bac Science” [scientific class in a high school], and I did two years of Bachelor at the science department of Poitiers (when La Rochelle did not exist, not the city – the university). Actually, I did my first year twice, and I have a couple of memories from back then. One is a professor (or I do not exactly know his title), always the same jacket, yellowish lecture notes on plant biology, in 78–79, 1978.

VS: Thanks for specifying.

CG: And another one is a professor of mathematics who was also professor of philosophy. It is and was already no longer common. And this professor always started his lecture with two points: first he was asking for a number and was computing its square root immediately. And then he was saying: “If you do not understand what I say it’s not your fault, it’s mine.” And I do not necessarily regret leaving, but in the last maybe 15 years, from time to time I do think back and say, ah, that could have actually worked, maybe in biology. For a simple reason, in my double identity of a comedian and an educator there is an important common point: you need to “go off the beaten path”. The same in science – and follow the quote³ from Einstein “Invention is not the product of logical thought”.

When I do my shows, or organize events, or when I coach the participants of MT180⁴, I work on this notion (I used to do it with a colleague who is now retired, so now I am alone): “*mise en sens et mise en scène*” [making sense and staging]. And, again, it does not apply exclusively to comedians, but to any person presenting in public. That is work on how you would tell a story, explain your subject, depending on the audience and the space where you will be. How to “play” with these two elements to communicate.

³“Inventer c’est penser à côté”, in the usual French translation.

⁴Ma thèse en 180 secondes (<https://mt180.fr/>) is the French-speaking version of the “Three minute thesis” (<https://threeminutethesis.uq.edu.au/>), where PhD students present their work to a general audience in three minutes.

¹The title of this article is inspired by <https://arxiv.org/abs/math/0105080>.

²The original conversation was in French, we hope that not much was lost in translation.

And also, what is your way to solicit the audience. I mean, what would you do if at your event there is a visitors' flow, and you are in the process of "popularization", that's probably the term. I don't like the frequently-used "vulgarization", I prefer rather "scientific mediation". And I am often inspired (in a good way) by commercials. I search for intervention strategies (show or event) that attract the audience. What is your opening? Because you have about 20 seconds to catch the audience. And I obviously think about the personality of the presenter, but also about the power of material objects. Sometimes people come because they are simply curious about the object: "oh, what's that thing?" And then the power of mediation is during the discussion to show the person in front of you that they also know something. It is not a typical teaching process, one side giving → one side taking, that's a two-way street. Sometimes researchers adopt the strategy "I know, I will help you understand". That's already not bad. But when it really works, on top of that you will try to extract something from the audience's knowledge. That gives a possibility to share information, and also helps to gain some trust in this relation. So, to sum up, it is not to transfer the knowledge, but to have an exchange (discussion) around the knowledge. When you talk about mathematics, you ask questions, not to judge the knowledge of a person, but rather to gauge and adapt your level of communication.

Then there are also all types of provocation. You see even at CNRS they start talking about shows. After all, MT180 is one. At some point I was making an intervention in the libraries, to show how one can use "supports", in that case books, for presentation. And I am not talking about scientific books, but about fiction. Because there is always a person behind, a scientist, so how starting from a story one can explain science.

When I started meetings like that, I was saying "science", "research", etc., and immediately in the audience people got warned, were raising hands, saying "attention, we do humanities, or letters". I answered: "and I am a specialized educator", and it changes the meeting at once. I did quit the department of science, but that to go to the field of specialized education, to work with autistic people, to do musical psychology ...

And then I realized an old dream to go to Quebec.

VS: Within your work?

CG: No, it was a teenage dream, to the point that when I was at school I was thinking of getting a helicopter license to travel through Canadian woods. And then in 95–97 I thought it was a right time, so I went on a sabbatical leave from my job (Institut Médico-Éducatif in Niort). And that was one of unbeaten paths, as I said. Long story short, really sketchy, I was accompanied by the French Office for Youth in Quebec. There I organized a musical tournée and also something in the field of psycho-music. I thought of a collaboration with a similar institute there, but that did not advance. At some point I met a guy from the Society for Promotion



Christian Goichon as scientific mediator and coach.
Picture credits: Gautier Dufau / Université de Bordeaux.

of Science and Technology (SPST), and I could work with them because I dared to call Patrick Beaudin – the communication director of the youth office encouraged me to, saying "you are both equally crazy". I did, not necessarily to promote myself, but to participate in an event in an interesting fashion. And one of the first projects was on ecomobility, you see, already at that time. And we had an idea of a bus inside which the passengers go on foot.

VS: Ah, funny, I heard such a thing in the news recently, didn't know you invented it long ago. And right, often by ecologists.

CG: Yes, exactly. We had a whole animation around, a show, and I had drawn it way back then. Those ideas circulate in the air, and then there is a project call, and you dare, and then it is financed, and you end up working on it for three years, and one thing leads to another ...

So I ended by working for them, on small contracts; in fact out of 7 years, I had at most six months of career breaks, having had left without any precise project. And even half of those six months I was following some educational program (where I was also lucky to be among the 12 selected candidates). After that I had an internship in a communication company. I was supposed to take the job after, but after having traveled a month back to France (for family reasons) I learned that there was no offer available. So back to Quebec to basically start over, and there again great luck. Actually before, during my internship I ran into Patrick B. at a metro station (Quebec, big city, zero probability), and I told him a bit about the company, the coming job offer. And exiting the station

he said something like, if it does not work, give me a call. Which I did, and started the day after.

Then after 7 years I decided to come back [to France]. I confess, I regret a bit [laughs]. I actually learned a lot about scientific culture there [in Canada]. I ended up being responsible for programs in the province. I designed programs there for innovators in teaching, researchers in high schools ... Created things around improvisation and science. And I am doing all that for about 30 years now.

VS: But did these things exist here [in France] back in the days? Because there is some impression that in North America it somehow developed earlier.

CG: I am not totally convinced about that. Some French people do say that Quebec is very advanced, etc., etc. And I confirm that for, say, natural parks, because it is more in their personality, and there were a lot of exchanges between Quebec and France too. But I am still not sure that it is one direction.

VS: I mean, obviously something existed on the level of individual researchers, since always. But that is like DIY improvised things, little scientific clubs. But the whole generalized "movement" like now, where there is some financial support, even job opportunities, is rather new.

CG: In Quebec in the Universities there are also people, and it is also not that old. For me in France (though I am not a specialist in history) the scientific culture came from "éducation populaire". Now this comes from associations, like here [in La Rochelle] Association for School of Sea⁵. The centers for scientific culture, they are all "associations" in the French legislation. But I still think that it went from schools, from a desire to make something – yes, as you say – out of what you find in pockets. And then it went to the universities, with the "responsables", the services for "culture scientifique", some associated really with culture, some with teaching and research too. Or from doctoral schools: there are places where now they have very good courses on scientific mediation. I think about Dijon (University of Burgundy) with "Experimentarium", or Nancy (University of Lorraine) with a "Sous-direction de la culture scientifique et technique".

VS: There, by the way, I have a question, why La Rochelle? Niort, I understand, like going home. But around there are bigger centers, Poitiers, Tours?

CG: Very simple, that is again a story of meeting people. Like Patrick B., who is clearly a key person in my professional life (we keep in touch even now). He is someone who convinced me that I can live from what I have in mind, from my ideas.

VS: That happens pretty often in the scientific community. It is sometimes enough to meet one person who would just believe in you. In contrast to other professions, where things are more formalized, with CV, interviews, etc. And here just "I hire you, but not because of your publication record, but because I feel you are able to ... and I am interested in that".

CG: For me it was in North America, meeting people, learning things.

VS: Maybe tell me more about projects there?

CG: One of the first projects was to promote the literature on tectonic movement. It was a development by the association I told you about: SPST. The association no longer exists, because the head retired. I realized after that I was supposed to take the lead there (if I had not come back), but too late. So, the tectonic project, where we needed an idea, because the topic is less "cute" than the whales and the urchins. And we brainstormed to a "Petition against the movement of continents". I was surprised that it was even possible, and in fact yes: we made t-shirts, posters, invited people. (So to go to MT180 I reproduced that t-shirt).

And then there was "stop the light diffusion", with Hydro-Québec [The Quebec State Electric company] as partner. To explain with a pizza box why your pizza stays warm. That was around 1990.

VS: Right, you normally learn this in school, but not with a pizza box.

CG: Yes. And the petition, some people still remember it. And, back to that idea, I thought if we are allowed to talk about science like this, I definitely go for it.

It was very easy going. With Patrick we lived in different districts, but from time to time we were arriving to work in the same metro train, so walking to the office, like 10 minutes, exchanging ideas. And I explained one improvisation idea. He said, write me half a page about this, the council meeting is in the afternoon. By the evening it was decided. And that is where I got extremely motivated: you trust me blindly like this, so I will do my best to show you that it was a good decision. And I appreciate a lot those people who can just from an idea dare to say: OK, go for it. That was one of the features of this job.

We organized a conference "Science with capital L" to speak about literature and science. It was French speaking, I went to Montreal to invite speakers, to bring to Quebec. So it was really a place of experimenting, of trial. And it permitted me to create things in scientific culture.

VS: But you still went back to France.

⁵ E.C.O.L.E de la mer – association La Rochelle

CG: Funny story, I was a bit motivated to make a decision to come back to France by a baker near my place. He said, after seven years you reached the top of a mountain, it is time to choose on which side you go. I went to France with this idea and this image of a mountain in mind, and I still remember the words and the voice of this guy. I went back to start over. And even in the personal relations, friends, when you are away you think that time is not advancing, so you expect to come back to seven years ago, but that all changed in the meantime.

When I came back, I was a bit lost. I even thought of contacting my previous employers, but obviously the position was taken. And actually, I was not willing to be back there. I was now positioning myself in "scientific culture".

And after three months I decided to use what I invented: theater to speak about science, how to work on events. And created this company "Les brasseurs d'idées" [literally, "The ideas brewers", but also playing words "The brainstormers"].

VS: So "Les Brasseurs" it was that: "I use theater for something else"

CG: For science. Really to speak about science. All our events for, what, like 20 years now were about science. I ended up in the organization meeting of Fête de La Science [Science Festival] in Poitiers in the Scientific Culture Center (it is about 40 years old – one of the first).

VS: Just to put into context, back in the days La Rochelle University was less than 10 years old. Very young.

CG: And behind was Catherine Benguigui, she liked it, and got interested. And there were also some people from the regional delegation of the ministry for Education and Research. Catherine said: "I want someone like you in La Rochelle". I was a bit noticeable, also with my little Quebec accent. I got some meetings in the ministry, and for them it was new, theater, events ... So I ended up a contractor in the University for the Festival of Science and some related projects. And the more it developed, the more I had work to do.

VS: I confess, the first time I heard about you, was in 2017, at the poll for proposals for Festival of Science. The first impression was, and this is the first reaction of colleagues usually, who is this CG? He is in this administration building, he will ask us for paperwork about things that we would do anyway. This changed for me, I understood that no-no-no, he IS the festival of science in La Rochelle, no exaggeration.

CG: Not surprised, actually working like 1/4 of my time here, also back in the days as an external contractor, I was not necessarily very visible. The same by heads of the Laboratories in the University.

You come from outside, nobody knows you, you are neither a researcher, nor an official in scientific culture, no specific education, no CV in the usual sense of the word. Just experience of fieldwork in Quebec.

VS: No, the titles and degrees in principle, we do not have to care about. But that is true, at first one positions you like a secretary or something, or administration, but not immediately as a colleague. That is after, while talking to you, one realizes, oh, that is actually him who created all that, it is his project. Like the Street of Science that you made last year.

CG: Right, with some humble pride. All those things I constructed. I had a carte blanche, and I took all that. I coordinate Festival of Science from A to Z. And not only giving ideas, also technical work, information flow.

VS: And I could have said, behind the curtains, but also in front.

CG: Right. At first as a contractor, and since 2017 as a part-time job. Also the thing that made me "known" is the MT180, since 8 years.

VS: Aha, tell me how you got into that. This is not exactly the same principle, not exactly scientific mediation, it is something else.

CG: And for MT180 I don't remember, probably I suggested that to doctoral school.

VS: Because in the French-speaking world it comes from Quebec, but it is a coincidence, right? It is not because you learned it there?

CG: No, right. I didn't show my passport to start [laughs]. And in the world it comes from Australia. I do not remember exactly, I for sure wanted to do it with my "double identity". What I did probably is suggested individual coaching. Because it is done differently in various universities, depending on the means available, time, etc.

VS: Ah, so it is not a general rule? Because I discovered it with Oscar⁶, who told me that we would be briefed and coached. I was relieved, otherwise, geometric numerical methods for general audience – good luck ...

CG: Some combine, like three hours with a comedian and three hours with a scientific mediator. I am doing it in one package and individually. Because for me it is important to match the personality to the project, it is about human interaction. For instance, a student

⁶ Oscar Cosserat is a PhD student of VS and Camille Laurent-Gengoux. He is working in Poisson geometry and got the second prize of MT180 in France in 2022.

who has just defended his thesis sent me an e-mail saying that this work helped him a lot, and this kind of feedback is very interesting. Or now a young researcher, who was in my second year of MT180, so 6 years ago, we are still in touch. She is now in Argentina, and doing a similar thing there.

VS: I understand. This kind of things, you try once and then you apply it everywhere. I like gong-shows for example – whenever I organize some conference or school, I also do a series of short talks by students. And is different from a classical talk, there is some animation.

CG: Exactly. And the same idea for commenting a poster for example. In MT180 what helps, again, is combining the two experiences: mediation and theater, I am like sitting between two chairs. For me when this competition comes, when I talk about it, these are very strong moments. You see how they start from scratch and develop. I remember a lot of them, and I saw like 75 students, so 75 subjects.

VS: So you have a pretty good sampling.

CG: There is one former PhD student who is now in Dijon running the “Experimentarium”. His thesis was on implication of PhD students in scientific culture projects. MT180 also helped me to be noticed by, for example, by the directors of the laboratories and senior researchers. They first look at you with suspicion, but then when they see the result: a student who was shy to talk to people, who works in his corner, whom you barely understand when he talks, not because of science, but because of the manner, and who is now on the scene, there they start appreciating.

VS: Ah, here I insist again I started appreciating before. Before I saw the result of this year.

CG: Another thing, especially from this year, I had students of 8 different nationalities, obviously with different culture of oral communication, of human contact, and that is very interesting. You start from all this and see how you can shape it, clearly different for someone from Vietnam or Burkina Faso or Dijon. Also it does not always matter if the person wins in the end of the day. I had someone with a very complicated technical subject, who really had trouble communicating. And, no miracle, we did not produce something absolutely perfect for the audience. But after his speech I saw his eyes shining. I told him, look, you managed to live through it, to feel, to smile in the end. So comparing “before” and “after” it was an extraordinary thing.

VS: To change the subject a bit, the question that I wanted to ask in the very beginning (before the conversation totally deviated [both laugh]) ... This profession, say scientific mediator or popularizer

of science, is it something that can be taught and learned, or should one be sort of born with it? Because what happens often is a researcher who would spend some time doing general-audience or school-level teaching activities. Or even all of his time from some age (like Kolmogorov, who founded a high school when he was 60). But can one maybe produce Christians Goichons in some Bachelor or Master courses?

CG: In general, the “schools” of mediation for educators exist, at the university level. It starts with a professional bachelor. I was giving some lectures in one of them in Tours. Those who graduate from such a school will mostly go to some project management. There are also masters of scientific communication.

Then, in the idea of educating people, one still needs some trigger to realize the desire to contribute to such activities. When I was in the science department and when I was leaving it I had no idea that I would come back with a totally different activity [theater] and learn a lot from that activity. And that trigger often comes from some science professor, who will not necessarily teach you science, but give a taste of it. Because I think our main goal is not to teach people science, but to give a flavor of it, encourage curiosity. We need to be credible on some positions, but more importantly we need to transfer the desire to learn, to be curious. And sometimes people tell me, certainly you can do that because you’ve learned a lot. But actually, no, I do not consider myself as having more background than my audience. But I am open to many things. I think that for “scientific culture” one just needs to be curious, dare to look around even outside science and research. And again, go off the beaten path – that gives a different viewpoint. I don’t know it probably does not totally answer the question.

VS: But to speak about background, your interventions, you clearly prepare them. On the other hand, you speak about improvisation. How does it come together? I mean a theater show can be something totally rehearsed, and fellow scientists talking in the corridor is absolutely improvised.

CG: Maybe one should not oppose preparation and improvisation. I am probably not capable of improvising completely unprepared. But then obviously in the role play there is room for improvisation, like when you play a professor you would need to answer questions staying in the role. And sometimes you even provoke the questions. An important “tool” in that is hearing – watching the person or understanding the group in front of you, interacting, being able to read fast whom we deal with. Which is tricky, especially estimating the intentions of your audience. For a show on stage it is easier, but for a live event with turning audience, even the basics: how much time do you have for that interaction. And you can simply ask, but then you need to have different templates or scenarios depending on the answer – how do objects appear in action, when

is the punchline. You will have some optimal scenario which you repeat for a new audience, but you need to stay flexible.

VS: And also probably depending on the audience: parents who bring their kids to a Museum of Natural History (which is not the first thing you would do visiting a city) and people whom you catch at the entrance of a bakery in the city center are not the same, they may have different education background, etc.

CG: Yes, and also the environment is different. And this is exactly what these lectures I was mentioning are about: “mise en sens et mise en scène”, and the notion of audience – explaining how you can work depending on the space and depending on people. I do not know exactly the contents of other courses, but there is obviously history of science, role play technique, exhibition production.

VS: Are these kind of things new?

CG: Well, some are. The one in Tours exists for 30 years already.

VS: And it became popular now because it reached some maturity? Or there are more investments?

CG: Difficult to say exactly, those who were interested in the subject knew before ... And I should also say that there are exceptions, for example, I know someone who's only education is the law department, but who by a chain of coincidences became a great scientific mediator. So, if you have a taste for communication, for storytelling, for interaction ... That person I would typically make the head of such a training program. So again, you can work on these skills, but you also need to be willing to.

Another thing that some people say is “I'd love to do that, but I do not feel confident, if there are questions, etc. ...”

VS: Ah, here I totally share the feeling. The first time we did the Festival of Science, we prepared a bit in the last moment, we didn't know the audience at all, and it was tricky. Even while we had, as you say, several scenarios, anything can happen. Like, totally unrelated to what we do, someone says some phrase containing “pyramids” and “aliens”. On the one hand you need to react, but also you should not lie.

CG: Yes, but anyway, whatever the context, when you face this type of statements you need to find some way out.

VS: But related to that, still a question. A theater show can be total fiction. A scientific mediation show is (preferably) truth. And I think what you usually present is true.

CG: [smiles] Yes, that is a different subject. I will give you an example. We will make a show, among others, about the sound of the sea in shells. And we start by describing a disappeared profession of sheller of sea sound – people who were putting this sound into the shells – and then we ask a serious question, could this actually be done, and with what tools. And around the table we behave as an R&D department contracted to do that.

VS: Funny thing, I was asked a very similar question a couple of days ago by my daughter, who is eight years old. And it is very tricky to answer not lying. By the way, do you have a favorite age for your audience?



Christian Goichon as author and comedian – show “Fouilles Sentimentales, comme les objets nous parlent”.
Picture credits: Doumé.

CG: Yes, beginning of school – 9 to 11 years old. That is very interesting audience. Since we mix truth and fiction, they should have some “critical thinking” or at least question what is going on. And in the end at debriefing we will separate fiction, because it is important. And they will be sometimes disappointed that it was fake,

because it sounded so nice. But what we see, is that this is a fruitful approach, because it catches attention. And it also helps to see that there are extraordinary things in science, should it be biology or mathematics, which we should valorize. I think that history of science and technology should be mandatory in high school and should continue in the university. I do not know if it exists.

VS: For high school I doubt. In the university I had history and philosophy of science, in some senior years. And while it was not necessarily liked by everyone, there was always a group of people who appreciated it a lot. And since it was a historian or philosopher who knew he was talking to mathematicians, he could adapt and he was giving true details.

CG: For truth or lies we have an interesting experience: in addition to our realistic fiction, sometimes we present facts that are so incredible that people start doubting, so we need to convince them that we did careful fact-checking. And in any case it is important to debrief. Sometimes a show is announced like a show and sometimes it is announced like a lecture. But even when it is a show, some people believe. And there you realize that even while you are not trying to manipulate people, they are losing the critical thinking and are manipulated by all sorts of fake news.

VS: Yes, and there you are touching a very important subject. We all realized in the last couple of years the power of mass media in all its forms, and also the need for educators and scientific mediators.

CG: Exactly. A sensible subject to debate on: the media will not necessarily go to the most qualified specialist for comments, but rather to the most communicating specialist, appreciated by audience, and that is dangerous ...

VS: Ok, to finish on a lighter topic, but something that probably cannot be taught. You are "a specialist of scientific mediation and humor".

CG: Yes, some newspaper wrote that. It was the first time I gave my "Sea, Sex et Oursins" lecture. I prefer another one, that comes from my colleague in Montreal: "General practitioner in specific curiosity". And I follow a 3S rule: "simple, souple, surprenant" [simple, flexible, surprising]. But you are right, I use different means of communication. I did not talk about it, but for two years I was doing humor chronicles for a Swiss radio station, a show named "Impatience". They saw me at some conference "Affaire louches: info ou inox" [untranslatable play of words involving cutlery and (dis)information] – means of transport and migrations of spoons", talked to me – there is an interview of me on the internet as a specialist of louches [shady things]. And then I suggested that show, as reports of a traveler, but to unusual places: like meet sugar in a sugar box. And we made 35 episodes, with the same

Philippe Boisvert as personage. And again, it was supported with no hesitation.

VS: Nice that you mention Switzerland, Quebec. Is the sense of humor different? Do you feel it?

CG: Yes. And I more or less study that. I have a pass to a museum in Lausanne where I can watch these humoristic things, and watch reactions. Speak differently ...

VS: The very last one, a little bit in the spirit of "what if". You work here in La Rochelle, but have you considered other options? A big city, or abroad?

CG: I did, and even applied to some places, some of which worked, and some did not, for various reasons. But here I like the balance between mediation, education, doctoral studies. And also in this discussion the word "carte blanche" often pops up – here I can do less conventional, more provocative projects. But I also have some from time to time elsewhere: Paris, or a recent one planned in Krakow around MT180.

VS: Ok I let you go learn Polish then :-)
Thank you!

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Christian Goichon is actor, scientific coach and mediator, general practitioner in specific curiosity, CEO and founder of "Les Brasseurs d'Idées".

brasseursdidees@yahoo.fr, christian.goichon@univ-lr.fr

Vladimir Salnikov is a researcher at CNRS, La Rochelle University, France. His scientific interests are graded and generalized geometry, dynamical systems, applications to mechanics and theoretical physics. He is also involved in various science outreach activities, including Festival of Science and the Young Mathematicians' Column of the EMS Magazine.

vladimir.salnikov@univ-lr.fr