Circuit Musiques contemporaines



Biophilia: 10 Years Later Nicola Dibben, in a conversation with Martin Guerpin *Biophilia* : 10 ans après

Nicola Dibben et Martin Guerpin

Volume 31, numéro 3, 2021

Björk : une artiste totale

URI : https://id.erudit.org/iderudit/1085813ar DOI : https://doi.org/10.7202/1085813ar

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Éditeur(s)

Circuit, musiques contemporaines

ISSN 1183-1693 (imprimé) 1488-9692 (numérique)

Découvrir la revue

Citer cet article

Dibben, N. & Guerpin, M. (2021). *Biophilia*: 10 Years Later: Nicola Dibben, in a conversation with Martin Guerpin. *Circuit*, *31*(3), 69–80. https://doi.org/10.7202/1085813ar

Résumé de l'article

Nicola Dibben (Université de Sheffield) a publié le premier ouvrage universitaire sur Björk (*Björk*, London, Equinox Publishing, 2009). Elle a participé activement à l'élaboration de l'album multimédia *Biophilia* (2011) et de l'application du même nom, également conçue comme un projet éducatif pilote. Cet entretien, mené dix ans après le lancement de *Biophilia*, porte sur son impact depuis 2011. Outre l'influence de *Biophilia* sur la production artistique de Björk après 2011, trois grandes thématiques sont successivement abordées : 1) l'intérêt de Björk pour la musicologie et le rôle que peut jouer cette discipline dans la création musicale ; 2) les résultats et l'influence des initiatives pédagogiques alternatives mises en place dans le cadre du projet *Biophilia* ; et 3) le devenir des projets alternatifs et des albums liés à des applications dans l'industrie musicale.

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Biophilia: 10 Years Later

Nicola Dibben, in a conversation with Martin Guerpin

Prof. Nicola Dibben (University of Sheffield) specialises in the science and psychology of music, popular music and new musical multimedia. Her research focuses on "how people engage with music (primarily through listening) and what that engagement means for how people think about and make sense of themselves and the world."¹ She published the first academic book on Björk² and was deeply involved in the making of the multi-media app album Biophilia (2011), which served as a basis for a pilot educational project. This conversation takes place 10 years after the release of Biophilia and focusses on its impact since then.

Musicology and Music Creation

Martin Guerpin (M. G.): First of all, could you remind us of the role you played in the making of *Biophilia* (as an app, but also as a physical product enriched with texts)?

Nicola Dibben (**N. D.**): My role in *Biophilia* could broadly be described as a musicological/musicology consultant, but it never felt that formal and we only decided on a 'title' for my involvement when we needed to include me in credits. Björk framed my invitation as a collaboration, to work with her and the rest of the creative team on a particular aspect of the *Biophilia* project for a fixed period. The initial conversations, in 2009 and 2010 were about whether I might collaborate by helping to articulate Björk's vision for the project in written form. Björk and her team felt that this was going to be an unusual project in many ways and that the conceptual vision for it was a complex one which might therefore benefit from musicological input. I had written a book about Björk's music, interviewed many people she had worked with, and they approached me with an invitation to see if we might be able to work together on this project. https://www.sheffield.ac.uk/music/people/ academic-staff/nicola-dibben (accessed June 24, 2021).

2. Dibben, 2009.

During the process of collaboration, I came to see my role as one in which I needed to listen to Björk and other members of the creative team, to understand her ideas for the project, and then find suitable ways to articulate those ideas in various project outputs. I understood that I could best contribute by helping to articulate in written form the relationships between her music, including music theoretic constructs she wanted to convey, and natural world constructs and phenomena that underlay the conceptual content of the project. This hints at one of the challenges of the collaboration: how best to represent and communicate Björk's ideas while retaining critical distance and yet producing something that would work as part of the project itself.

The working relationships were very fluid and my role changed as the creative team got to know each other and as the project itself evolved and new tasks emerged where I might be able to contribute. Some of these made it into the final project and some did not. Particular outputs where you can directly see my contribution include the essays within the app and physical album booklets/liner notes, exhibition content for the world tour of Biophilia including text for a pre-performance film, a tour brochure, an essay for MOMA New York (2015) exhibition catalogue, and I interviewed Björk in the documentary When Björk met Attenborough (2013). I also contributed in ways which are less obvious: I provided musicological consultancy for packaging design, to music educators making the educational resources, and worked on the script for When Björk met Attenborough; I helped draft press releases and appeared on stage as a presenter at the app launch at the Manchester International Festival (2011) to talk about musical aspects in Björk's absence; I wrote app descriptions to advertise the apps in iTunes/the App Store, and helped write a bid to an international performance venue to host the show.

M. G.: Looking back at your collaboration with Björk and the other artists involved in this project, could you elaborate on it specifically regarding the role of musicology and musicologists as well as the role of musicology and musicologists in music creation more generally? What did Björk expect from musicology (she often uses the term in interviews on *Biophilia*)?

N. D.: Björk uses the word 'musicology' a lot in interviews about *Biophilia*, and, like many people outside academia, she has a particular way of understanding it which is in the broadest sense of 'the study of music.' For the *Biophilia* project she was primarily concerned with two aspects of musicology, as can be seen in the project itself and how she talks about it: music theoretic constructs such as scales, chords, keys, metre, rhythm, and what we might call 'epistemology,' specifically she conceived of her project as a 21st century 'music of the

spheres.' My role as a musicologist was understood as primarily a communicative one: expressing project ideas in written form rather than through the practice outputs themselves (the performances, recordings, apps and tracks).

As I wrote in my 2009 book on Björk, it is notable that Björk's is a very all-encompassing aesthetic: she brings every media at her disposal to work to realise her ideas, which was one of the things that made me want to write about her music in the first place. I found it humorous therefore to be brought into the fold for the *Biophilia* project. Up until that point musicology had not been part of Björk's arsenal of weapons, even if journalism and music criticism had been incorporated by her previously, and here was I manifesting another conquest. This could be seen as a form of control of course, such as hinted at in conversation with Timothy Morton ("I would like to offer up a collaborative hand and wave hi to theory. Well, if I don't do it, the art critics will and that seems destined for misunderstandings")³, but I think of her inclusion of musicology and music pedagogy as part of Björk's aesthetic of using every media at her disposal to communicate her ideas in an extraordinarily integrated way.

M. G.: Part of your work was to understand and explain Björk's conceptions in terms of compositional practices and structures. To what extent do you find her way of composing in keeping with the values of the *Biophilia* apps (emphasis on 'gesture,' 'gaming' and 'intuition') and the way they work (this question applies not only to the *Biophilia* songs but also to Björk's output)?

N. D.: Perhaps what this question is getting at is whether the music of the *Biophilia* apps realises the ambitions expressed for them. I think what's striking about the songs and apps is that what we get is a strong authorial vision from Björk—an idiosyncratic 'take' on relationships between music theoretic constructs, and structures and phenomena in the natural world. These are not relationships that you or I would necessary think of, and not systematically derived as such. Nonetheless, there are often cross-modal correspondences underlying them which enable them to make sense to many people. As such, *Biophilia* is a very different undertaking than if, for example, an academic music psychologist, educationalist, and composer were to create a music-science project of this sort. What *Biophilia* does have is a strong artistic vision, where we enter into Björk's vision and idea about the world and the way the world is or could be, perhaps.

Björk's compositional methods map onto the thematic ideas expressed in writings and in interviews, but are sometimes an expression of compositional intention and potential. For example, Björk was attracted to gestural 3. Morton and Guðmundsdóttir, 2015

interfaces as a way to manipulate sound and extend her instrumental capabilities: she welcomed the advent of different kinds of interfaces (joysticks, touchscreens, etc.) even if the reality of their use was constrained by the technologies available in 2011. She used a joystick as a controller for some of the composition in *Biophilia* and credited it with helping her achieve certain compositional goals, such as avoidance of 4/4 metre, and broadening her use of scale structures. So, for Björk, gestural interfaces are one means by which to solve certain compositional problems.

One of the striking things for me about witnessing the making of *Biophilia* was the speed at which it happened, and the sheer number of times Björk was called on to explain the project to different members of the creative team, to journalists and to her audience. An artist such as Björk gives hundreds, even thousands of interviews in the process of making a project and afterwards, and therefore the interviews should be regarded as one moment in time, made in conversation with a particular interviewer and for a particular purpose, within a space where the artist might be working through and coming to their own realisation of what the project is about. I definitely got that sense in the interviews and conversations I had with Björk about the project during 2010-11. The project happened relatively quickly and at speed, and many of the fundamental ideas emerged during the process of making—they did not all pre-exist the project.

M. G.: *Biophilia* also reveals Björk's interest in and curiosity about musicology (which, to me, is not common). Does she read academic papers and books about music? If not, how would you describe her conception and definition of musicology?

N. D.: Björk did a lot of research for *Biophilia*, but not primarily musicological, no doubt because she felt expert in achieving her musical goals for the project, but also because I think she would not recognise/adhere to strict boundaries between domains of knowledge just as she wouldn't in musical genres. She worked with her friend and creative assistant on *Biophilia*, James Merry, also an artist in his own right, and together they researched material which informed the project. Much of this research was about the natural world phenomena that then became the subject matter of songs: so, for instance, she watched a lot of nature documentaries, specifically those by David Attenborough, and researched specific natural world phenomena, such as forms of parasitic symbiosis for the song "Virus." Similar examples of specific background research exist for her other songs. She also carried out what in academia we'd call 'practice-as-research,' experimenting with dif-

ferent kinds of timbre, musical instruments and compositional techniques but primarily informed by making music with collaborators rather than by reading academic texts. The *Biophilia* project was also informed at a more general level by a world-view shaped by her reading and research. This included popular science books, such as Oliver Sacks' *Musicophilia*, through to philosophical texts. It is not by chance for instance that she contacted the philosopher Timothy Morton, an exchange with whom appears in *Bjork: Archives* (2015). It's telling that in that exchange she is trying to figure out how to classify herself: "so I have been doing a little reading and trying to find folks who could help me define what 'ism' I am...."

I explained above Björk's use of the word 'musicology.' I notice that at times her use of the word jars in interviews because she seems to use it to refer to one aspect of musicology (music theoretic constructs) rather than the broader sense of the word that I think many within academia would recognise. Interestingly, this wasn't something that emerged in my conversations with her, so it seems to be the product of certain kinds of interviews, perhaps.

M. G.: Was *Biophilia* a one-shot collaboration with musicologists, or was it the beginning of other types of collaboration (I'm thinking of the 2015 *Bjork: Archives*, for instance)?

N. D.: Björk has collaborated with writers of different sorts throughout her career, and I don't see such hard distinctions between musicologists and the other types of writers she has worked with, such as the music critics, journalists, composer-academics, or poets or fiction writers who have contributed to her output in the past. Therefore, I do not see my collaboration with Björk as a beginning or as unique as the question might imply. Rather, my collaboration as a musicologist with Björk is part of her long track record of collaboration. As I mentioned above, I think Björk uses whatever resources best help her achieve her ends: I was invited to collaborate because she wanted to include an educational component to *Biophilia* and needed someone who could write about her ideas and the connections she saw between music and the natural world. If a future project needs such skills, then she would draw on them.

M. G.: One branch of musicology is music history. Some apps like "Crystalline"⁴ suggest that Björk may be aware of Henry Cowell's elastic form, or John Cage's indeterminate music, or André Boucourechliev's aleatoric music. Is she interested in the history of music (my examples are from the classical tradition, but my question encompasses all kinds of music)?

4. *Biophilia* is an app-suite containing ten apps. Each of them relates to a different track of the original album, and contains the song, a scrolling score, an essay by Nicola Dibben and a creative game. **N. D.:** Yes, Björk is curious, very open to different musical styles, and has a good knowledge of 20th and 21st century musics and audiovisual arts of many kinds. I do not know whether she specifically knows of Cowell and Boucourechliev, because these never came up in conversation, but she was well aware of Cage, indeterminacy and generative techniques. On one visit to meet her in Reykjavík in 2010 she happened to also be meeting with English composer John Tavener with whom she had long been acquainted. This is an example of the way she has been exposed to and sought out a vast range of people and ideas.

M. G.: During your discussions since 2011, has Björk been interested in other branches of musicology (music psychology, music pedagogy, or music sociology, for instance)? Has she ever asked for research pieces to read?

N. D.: Björk was extremely curious and open to learning but also very focused on realising her projects. She seemed fascinated by music psychology (as indicated by her enthusiasm for *Musicophilia*) and by the natural world. She also wanted to know more about music pedagogy in order to contextualise her own *Biophilia Educational Project*, which was influenced more by personal factors than by pedagogical theory. I shared with her the names of current educationalists who I thought could help her in this. Within the time constraints of the project we focused on pragmatic decisions which would allow pop-up music schools to run as part of the world tour of the live show: the first of which, in July 2011, had to be designed before the *Biophilia* app was fully functional.

M. G.: The way Björk relates music to nature and science in *Biophilia*, and the way she takes nature as a model for music creation (not only for making descriptive music, but also for developing new forms) reminds me of conceptions of music held during the early Renaissance (especially the relationship between music and cosmos), and also to some of Debussy's works (the nature as a source of formal innovation in *La Mer*, for instance). Did Björk have a similar sense of historical background? How would you describe the singularity of her approach to music-science-nature in *Biophilia* and the rest of her output (before and after 2011)?

N. D.: Björk was aware of and conceived her own project in terms of 'music of the spheres.' I specifically picked up on this in the interview for Pulse Films and asked her to explain what she understood and meant by this. She described it in terms of the Renaissance idea of the harmonious proportions between celestial bodies, an idea as might be encountered in a Western

music history course, although I did not ask where her knowledge derived from. This seemed to be a notion specific to this *Biophilia* project, rather than a world-view. In other words, 'music of the spheres' offered a hook by which to explain her project concept in which music and the natural world are one-and-the-same, aided by a neophilic perspective on emerging technologies as a solution to environmental degradation. As I've noted elsewhere,⁵ this is really the first time that Björk's artistic output wholeheartedly engages with the ecological commons rather than a specifically Icelandic natural world (with the exception perhaps of the song "Oceania," which anticipates some of the ideas in Biophilia). Arguably, it is also the project in which the 'technological' as signifier is most thoroughly integrated into her work by virtue of the tablet computer, which enables natural world phenomena to act as musical interfaces. In other words, I would say Biophilia is the most thorough realisation of the music-nature-technology concept which characterises Björk's output anywhere in her work. I am not sure I would characterise Biophilia as "taking nature as a model for music creation" as the question frames it, but rather it is possible to interpret Biophilia as manifesting a view of the musical and the natural as unified, as though one-and-the-same. This is consistent with the way she articulates unity between humans, nature and technology elsewhere in her output.

Music and Education

M. G.: *Biophilia* was designed as part of the broader *Biophilia Educational Project*, based on a more interactive and intuitive way of engaging with music listening and composition, close to Björk's own relationship to music...

N. D.: Viewed in the context of traditional models of formal Western music education, the *Biophilia* app was innovative in four main ways: the integration of musical teaching and learning with that of science and technology; learning through play/ludification; making music by manipulating recorded and synthesised sound through touchscreen interfaces (rather than playing electronic keyboards, acoustic instruments or using a digital audio workstation); placing music genres and their associated forms of representation on an equal footing (by incorporating sheet music notation, graphic scores and MIDI).

M. G.: Were there historical models for these innovations and, if so, was Björk aware of them? I am thinking, for instance, of Jacques-Émile Dalcroze (1865-1950), whose music pedagogy, which he developed as an alternative to traditional methods, was based on movement (rather than sight), game (rather than rote learning) and instinct (rather than analysis).

5. Dibben, 2017.

N. D.: I think it would be inappropriate to suggest that Biophilia was ever intended as a new pedagogical system in itself; it might be more accurately viewed as a pilot study or experiment in how one might teach and learn music and science together, using touchscreen technologies. I think it's telling that Björk's vision for the project during my conversations with her was articulated not in terms of previous or specific pedagogical approaches but as a response to her own experiences of music education, and of observing those of her then 10-year-old daughter, which are similar to the way millions of children still learn music: namely by learning to play a musical instrument, and through the study of Western classical music and composers. I agree that Björk's vision for what music education might be shares much with Dalcroze's approach and broadly for the same reason-they both propose an alternative to what is/was perceived to be an unsatisfactory mainstream approach. Other music pedagogical systems (also) emphasise improvisation, composition and avoidance of music notation as ways to learn music (e.g. from 18th century Solfeggio, to current teaching systems of Kodaly, Suzuki, or European Solfeggio) but I agree that of these Dalcroze's is perhaps the most similar to Björk's vision. Personally, I think the main innovation of the *Biophilia* app as an educational intervention is the removal of boundaries between areas and types of knowledge which has the effect of placing music and STEM subjects (science, technology, engineering and medicine) on a more equal footing and of placing creativity at the heart of the educational experience. From that perspective it therefore has more in common with multidisciplinary/interdisciplinary/transdisciplinary integrative educational systems which avoid treating knowledge in silos.

M. G.: After ten years of implementation, would you say that the apps and the pedagogical innovations they brought into music education have had a lasting influence on subsequent music educational projects?

N. D.: I see the *Biophilia Educational Project*, within which the app was a tool, as one example amid a number of arts-science integrative educational programmes.

M. G.: *Biophilia Educational Project* was presented as innovative. But as you wrote in your aforementioned chapter, the ten *Biophilia* apps treat "different aspects of musical structure as completely separate,"⁶ as does traditional music pedagogy.

N. D.: Tradition and innovation can be seen throughout Björk's output. For example, the *Biophilia* app exhibits features which can be viewed as innovative in its historical and cultural context:

6. Dibben, 2013, p. 689.

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- This was the first album-project of its kind for tablet computer, although there had been some music released in an app (or app-like) format prior to *Biophilia*. It came at a critical moment of declining album sales as recorded music consumption transitioned from physical to digital artefacts, and from ownership to streaming, so the app album can be viewed as one among a number of contemporary experiments with the album format;
- This is a rare example of a recorded music album project which explicitly integrates interactivity. There are few fixed versions of songs in the app, some nonlinear renderings, and some requirement to actively play tracks in order to hear them, all of which was uncommon in pop music. Tracks require active involvement rather than passive listening: improvise your own bassline ("Thunderbolt"), create your own route through the song structure ("Crystalline"), use it as a music instrument/ sequencer ("Moon," "Solstice," "Hollow," "Dark matter"), a music writer ("Sacrifice"), an instrument and game ("Virus"). It also integrates forms of interactivity in the broadest sense which already existed 'outside' recording projects, specifically karaoke, MIDI playback, and 'sheet' music;
- Integrating interactivity, the ability to make music with the music, and enabling open-ended musical works is not new, because post-Cageian composition has made these ideas familiar to audiences. But what was new was the incorporation of these within a recorded pop music album format;
- Creating an immersive and spatialised listening and viewing experience, and thereby anticipating her later work in *Björk Digital*;
- The album app embodies an integrationist educational vision. There is a long history of music composed specifically to teach music, from the studies composed to teach instrumental technique through to *The Young Person's Guide to the Orchestra*, but few composed to fuse the teaching of music theory with the natural sciences.

There are also many aspects which the *Biophilia* app has in common with older media:

- The app 'box' design mimics the physical album architecture of 10 tracks with associated paratextual materials;
- The staggered release dates mimic the sequenced release of three singles leading to an album release;
- The paratextual materials embedded in the app recall the multimedia experience of a traditional LP album with its cover art and liner notes;

- The animations within the app, and the app games and linear videos could be seen to be extensions to the idea of the music video;
- The interactivity of the app means it affords individual, attentive, and to some extent non-mobile listening which some have viewed as similar to the affordances of vinyl and CDs;
- The app is not networked and does not enable user-generated content to be uploaded or shared within the app itself;
- The app is based on an economic model of ownership rather than subscription or streaming;
- The app presents a 'curated' experience, and what appears as a single authorial vision.

This mix of innovation and tradition is characteristic of Björk's approach more generally, which has much in common with Romantic models of authorship, freedom from commercial constraints, and (to some extent) music as intense and individual affective expression. The underlying ideology of her work—the idea of unity between nature, humans and technology—is true to this Romantic tendency, but she adopts a positive, forward-looking perspective in which technology is able to help achieve human flourishing.

M. G.: Björk's life and works are often associated with 'alternativism.' For instance, the lyrics of "Declare Independence" (*Volta*, 2007) advocate economic and linguistic autonomy ("Start your own currency," "Protect your language"). Yet, the *Biophilia* app was exclusively developed for iPad and iPhone and is sold for 13,99 euros on the App Store.

N. D.: Coming from a punk and indie background, Björk and record label One Little Independent (OLI), have frequently been accused of selling out, as though participating in the music industry at all is a form of betrayal. This critical narrative is not particular to Björk's reception but true of many indie artists or groups. The fact that *Biophilia* was released as an Apple product was a particular source of criticism by some, who saw Apple as an icon of capitalism, and one associated with economic and environmental exploitation at odds with *Biophilia's* green agenda and/or with an inclusive music pedagogy. Björk raised the issue of the expense of the device in one of our very first meetings in 2010, noting that she was really excited by the potential of tablet computers, and remarking that, while it might be expensive right now, mobile devices would very soon be cheaper and much more widespread. Björk and OLI were keen to release it for Android which happened subsequently. Making *Biophilia* for Apple devices was a pragmatic decision since in 2010 the iPad was the first mass market touchscreen tablet computer.

Björk and OLI's alternative culture made itself felt in the running and financing of the project. As an independent artist who has worked with OLI for all her solo career, she has control over her artistic output. She has repeatedly said that she is happy if she breaks even on her projects, paying salaries and costs, and interestingly, the app project was reportedly funded through a profit share with the developers.

Biophilia: A model for the Music Industry and Digital Music Publishing?

M. G.: In the field of publishing, new formats such as interactive books have become widespread. But it does not seem to be the case with *Biophilia*. In your view, why didn't this kind of interactive app album become a model for the music industry?

N. D.: When Björk's *Biophilia* was released in 2011 it was greeted as the birth of a new music format, and was even likened to the birth of cinema by the app album's designer, Scott Snibbe. Other app albums have been made since *Biophilia*, and we now live in a mixed ecology of media formats which include the app album, alongside streaming, vinyl and CDs. However, the album app has not become the norm. There are a few possible reasons for this:

- The creation of the *Biophilia* app was a complex and expensive project, made more so by the fact that no established models for an app album existed, even when it came down to economic arrangements such as how it would be hosted by iTunes and/or the App Store, or technical problems such as how the songs could be nested as separate apps within a 'box' app;
- It focuses on longer-form musical material in a way which requires attentive listening. There's an audience and market for attentive and interactive listening to music but perhaps not as large in terms of potential monetisation as other kinds of engagement;
- Album projects can include the added value that paratextual materials provide through means other than an app. The app was ideal for the purpose of *Biophilia*, which was conceived as interactive, and as a multimedia product incorporating multiple kinds of material.

Notably, the features of *Biophilia* that were new within its context at the time are not the features that have since become significant within the musical landscape: short form video, social media, and streaming.

Your comparison with interactive books is very interesting because there are similarities between the innovation or lack of it in e-publishing as well as in recorded music. We exist in a mixed ecology of digital publishing which includes quite traditional models: the mainstream of e-books are akin to digitised physical artefacts such as a PDF which can be owned or streamed. In this sense the e-book is much like a digital album or MP3 single: both are traditional forms delivered digitally, consumed on a mobile device, and often streamed rather than owned. Even in digital book publishing then, just as in music apps, the truly transformative examples are rare and we could say that the major change has not been a transformative version of the book, albeit examples exist, but other kinds of networked, mobile user-generated publishing.

M. G.: *Biophilia* is the first app to be acquired by MOMA as part of its collections. How did Björk feel about this legitimisation of her collaborative work? And what impact did it have on the app's reception?

N. D.: Acceptance of the *Biophilia* app into MOMA's collections occurred at roughly the same time as the exhibition on/by Björk, therefore it is difficult to separate any potential legitimisation due to the app from that due to the exhibition. Notably, the awards and placement in the collection, are for *Biophilia*'s design innovation. I think the award and inclusion of *Biophilia* in the MOMA collection cemented her reputation as an innovator working across artistic boundaries. But it also has dangers: becoming an artefact in a collection immediately historicizes the app (although I don't see that as too much of a problem given how quickly this area of innovation changed) and potentially frames Björk as part of a cultural elite. The Björk exhibition designed and hosted by MOMA in 2014 was criticized, but one thing it did very effectively was to position Björk as a living, making artist, in control of her representation and in which even the art institution was made to serve her artistic purpose.

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