SCIENCE FICTION

Compressing nebulae for stellar culturing:

Gravitational Waves, Dark Matter and time/space defraction.

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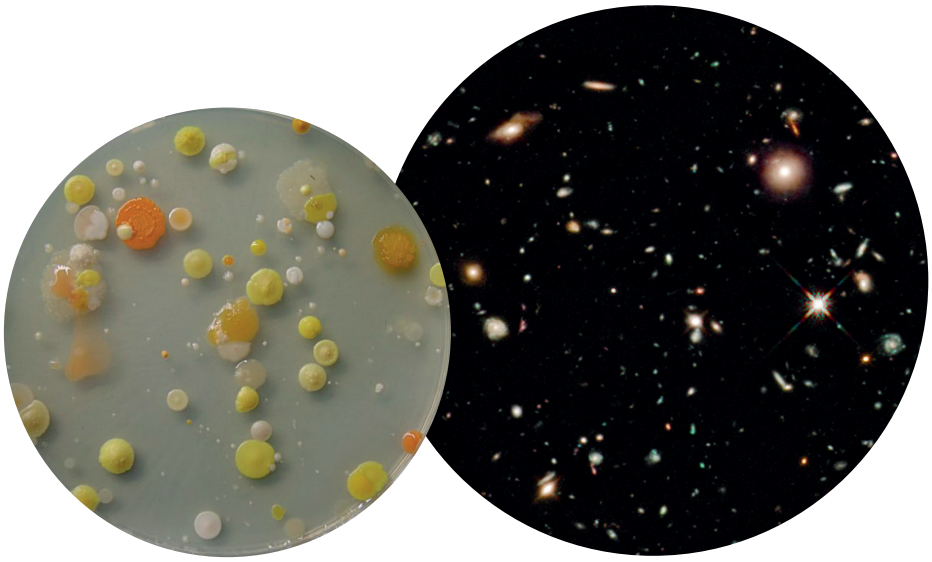
It is well known that enormous amounts of energy are necessary to produce cellestial objects such as nebuale, galaxies or stars. Even the energy necessary to produce a small planet such as ours has a magnitude far too big to ever be experienced directly by us. Visualizing a numerical representation of this wouldn't be sufficient, in our opinion. This work explores the possibilities of the brand new field of Time-Space modeling through Gravitational Wave defracting. Experimenting with high-end vibration and Dark Matter receptors we have found ways to compress and encapsule vast regions of onthycal space continuum into small receptacles that allow us to study, among other things, the life-span of nursery nebulae (like Eagle nebula) and planetary nebulae (like Helix nebula). We take this objects as immobile, still and rigid, but of course our perception is wrong: they are moving very fast and decaying at huge rates, emmiting the delayed and fainted energy that we translate throw our astronomical devices. Creating -and not simulating or representing- this celestial objects in a laboratory context could give us some deeper understanding about this processes, not to mention the incredible visual beauty that is produced algong the way. As a divulgating procedure, some of our results have being exhibited for the public to directly exprience this objects. This exhibition has being curated and developed by well known contemporary artists, allowing this proyect to entangle with -and comunicate- the cultural meanings it could provide.

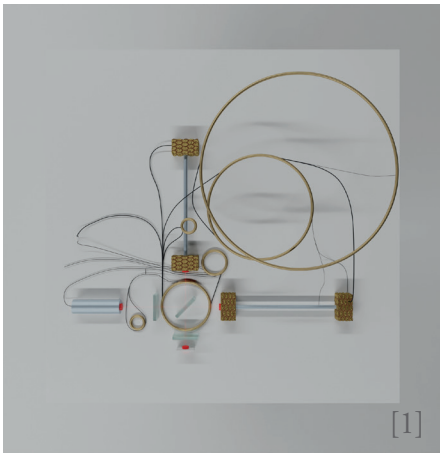


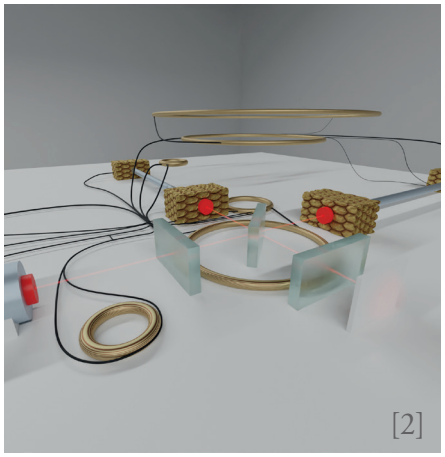
A visual comparison between bacteria being cultured in a petri dish and Hubble's deep field of galaxies. It's easy to recognize how small and big structures are not so different from each other.
Sources: www.pharmaceutical-technology.com
www.nasa.gov

Antecedents:

Experiments and imaginations.

Artists have always dreamt of making a world of their own, a living one. To religious people, the ability to make things from nothing, even if this concept exists, is strictly reserved to a superior entity or being. On the other hand, we have collected the wonders of the world in our museums and in our computer hard drives. We are still on track, discovering the smallest particles and vibrations in our quest to understand and control bigger things. Not so long ago, we were not able to manipulate living things down to their core (taking away artificial selection, that functions the opposite way), and even more impossible was to insufflate the vital breath to immobile objects. But when biologist Sydney Ringer made a saline solution to keep the heart of an animal pumping outside it's body, the ever growing field of Cell Culture took some of its first steps into showing us that there was something invisible surviving the no longer present consciousness of its bearer. Life had some smaller components that could be somehow controlled. Now it is possible to culture and harvest things that we never thought on doing so, from microorganisms to skin tissue. This is the base idea that we embraced to develop some of the material uses and procedures that you will see from now on. Of course, the main obstacle we had in front of us was in deed a material one. How could we fit an entire nebula in a small receptacle? What could one feed to these enormous creatures? Do they eat at all? Aren't they made of vibration to some extent? We went looking in our own field of physics for some elements that could function as those in Cell Culture, such as petri dishes and agar solutions. We took some ideas from other sciences, mostly from the technical point of view, but we will describe them further on this paper.


[1]


[2]

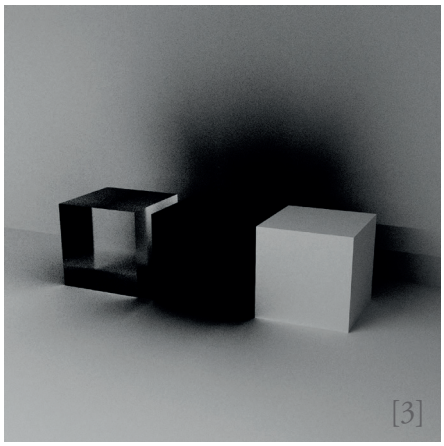
The symbiotic relationship of MGT and GRU is achieved by a crossed monitoring system. Ring-shaped repeaters redirect gravitational vibration produced by lasers.

Tool development:
Making the big things small.

To reduce big spaces to a human scale, we needed to make small machines that could fit inside this space as well. We based our models for gravitational defraction using blueprints from two of the best known tools for capturing the invisible, the LIGO interferometer and the hadron collider (LHC) from CERN. These machines were put "in reversal mode", as a speaker is to a microphone, or a radio receiver to a broadcasting unit. The interesting part comes when both machines connected together are able to produce what we need: a time-space defraction that creates a smaller onthycal continuum, able to nourish future nebulae. What the small version of LIGO does (called Micro Gravitational Transponder from now on), is to transform electro-magnetic fields into small gravitational vibration. This vibration is then captured, stabilized and emitted with the small version of LHC (Gravitational Defracting Unit from now on), interacting with our "agar solution": Dark Matter. As you can see in figures [1,2], the intertwining of systems is set in a way that allows us (and machines themselves symbiotically) to monitor their behavior in time. The next step was to find the right way to configure a "petri dish" and "agar solution" that could contain this energy and this matter. Having the machine on point could only be possible through testing interactions in real time.

Collecting/testing materials:
Invisible perspectives.

It is a common known theory, that in the beginning, everything was a single material that began to separate after a big "explosion" and form what we can and cannot perceive by differentiating itself into many forms. It is important to notice that we, and everything perceivable (interacting with electromagnetic waves), sums up only to a five percent (5%) of the total mass of the universe, meaning that everything else (85%) we can only detect through its interactions with gravity. We took this idea and came up with a material similar to the one that made everything before the Big-Bang. It is Dark Matter in a primal state, visible from the outside but not from the inside. Interacting with light only by denying it. We can use this material because it has not separated itself yet, and contains all possibilities for creating all sorts of things, in a stellar way. Notice that the space where this material was positioned is to be defracted, so anything emerging inside of it will be a lot smaller. In fact, the process of ignition has to be set right to avoid explosive outcomes. CERN investigators provided this material to us. They collided fundamental particles into a homogenous broth of stable matter. A Higg's Boson's broth, so to speak. This material behaves a lot different from normal ones (see figure [3]. Finally, to contain the gravitational and energetic interactions happening here, with our device, we protected both machine and Dark Matter with a layer of synthetic diamond. Specially cultured and polished for our needs, its hard and transparent enough to contain the process and let us see what´s going on inside. In figure [4] its demonstrated that this dense layer isolates our experiment efficiently. At the bottom of everything, a perfect block made of concrete and lead isolates the ground.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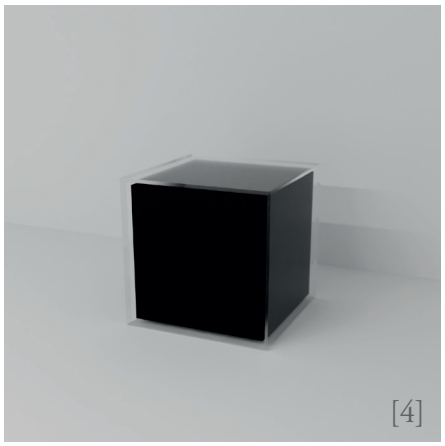

[4]

Covering Dark Matter with synthetic diamond was fundamental to keep the interaction controlled, as it isolates the procedure from contamination.

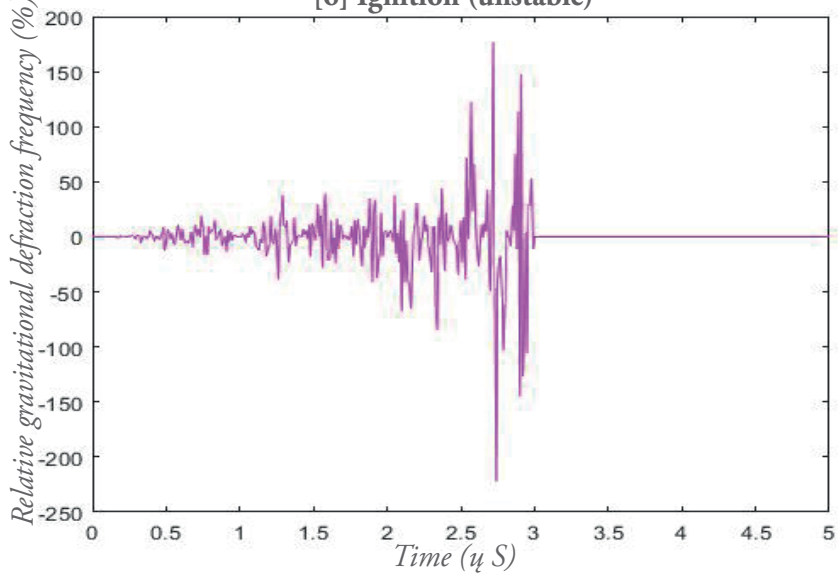
Dark Matter starts decaying [5] right after the system collapse. Figure [6] shows when the system overcharged.

IGNITION TESTS:

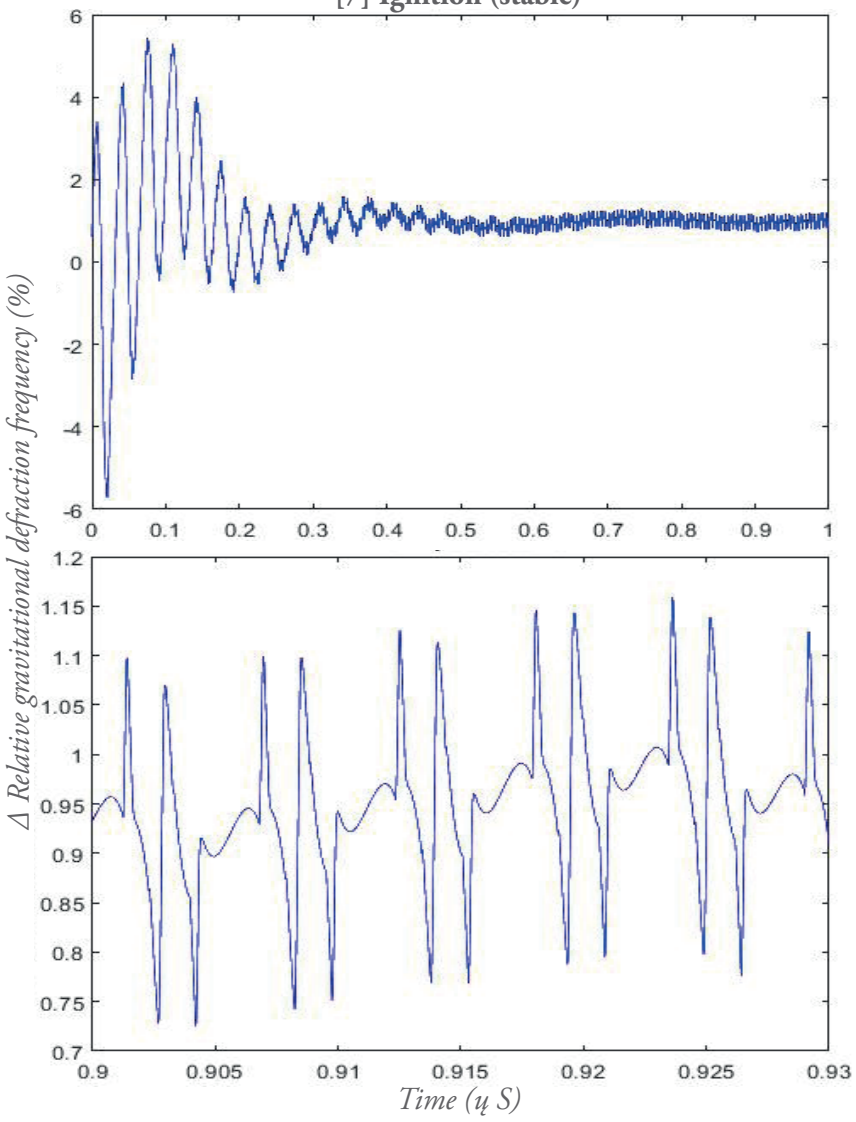
Mistakes and corrections.

Unfortunately, some mistakes happened during the ignition phase, which is the most important one because Dark Matter is very stable and produces its own energy while decaying. Figure [6] shows the precise moment when the amount of energy exceeded the limit of the diamond layer. The figure left to it, [5] shows how it broke into pieces some microseconds later. We realized that the lasers of the MGT were set to a much higher frequency than needed, overcharging the conductors and emitters of the GDU. This collapsed everything and the Dark Matter started to fade away, as it began transforming into ordinary matter. Further ignition tests went also wrong, because of proportions of Dark Matter and diamond, energy and time, etcetera. Figures [7] shows a graphic of a stable ignition, and figures [8,9] describe and show the onthycal stability after this rightful ignition. Notice that the quantum stabilization unit (installed an monitored in a GDU module) is responsible for this stability, and as you can see, dimensions in time space continuum decrease as time goes on, and get to a point when they remain constant and small.

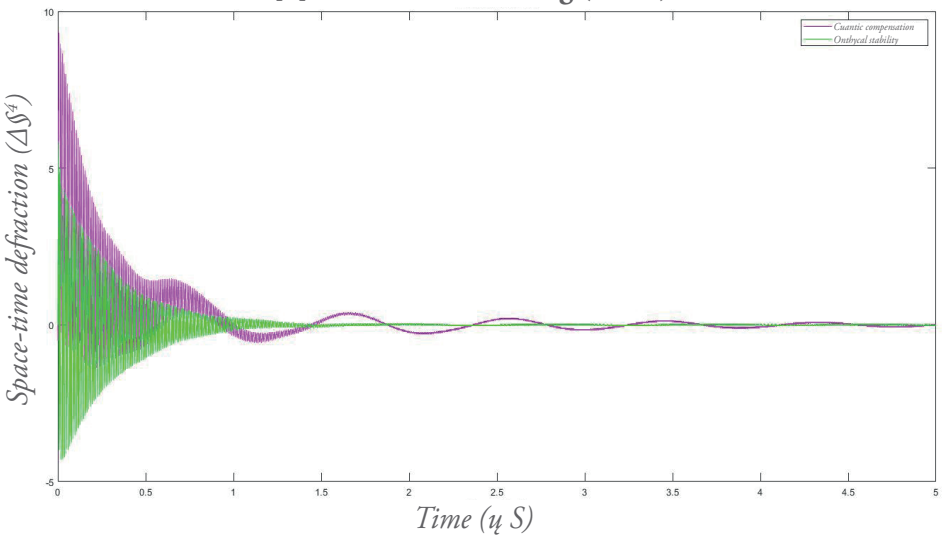
[6] Ignition (unstable)



[7] Ignition (stable)



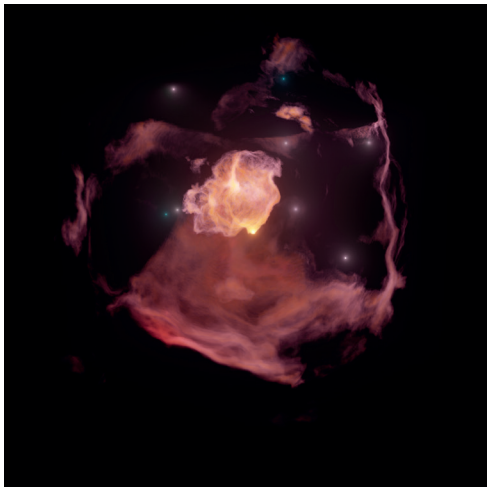
[8] Function Monitoring (stable)



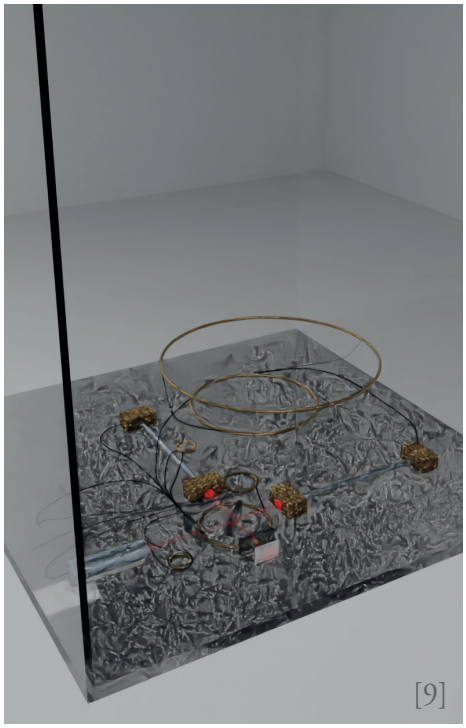
TECHNICAL CONCLUSIONS/ACHIEVEMENTS:

Culture processes.

A video file accompanies this publication, showing the first successful nebula growing. See also Figures [10,11]. As hydrogen atoms appear in the container, they begin to collapse, stars are then born, sheding light to the gas cloud that formed them. The cloud condenses and changes shape with time. Figures [12,13] show some examples of other nebulae formed with different vibrations and energy rates, applied to different containers that shape the growth rate and morphology. Example in figure [12] has two devices inside, to cover up the verticality of the container, and example in figure [13] has a bigger, wider device, forming a wider nebulae. Unfortunately, this is a very expensive process at the moment, and further tryouts will require more funding coming to our organization. It becomes more expensive even, because Dark Matter decays at a fast rate, becoming denser materials as this happens. What could we take from this experiments? From the research angle, laboratory studies have a new way to gather data in a controlled environment. Variability is the main factor in understanding, for example, how stars are growing outside. On the other hand, this is a very productive process. It could eventually provide humanity with a clean and efficient way to produce energy (this is a very synergic process, meaning that most energy applied to the system is used at the ignition stage) and specific materials, depending on new techniques associated with stabilization and harvesting devevloped in the future. Locally, in Chile, where we come from, both perspectives could help us be independent from our current export-import economic system, allowing us to work on other issues, mainly our huge economic inequality associated to social/political/educational biases.



[10] Nebula 001, Nebula 001, our first successful culturing, has a red color indicating a large presence of hydrogen.



[9]

After a successful ignition, our device starts deforming space-time without collapsing. Trial without Dark Matter in place.

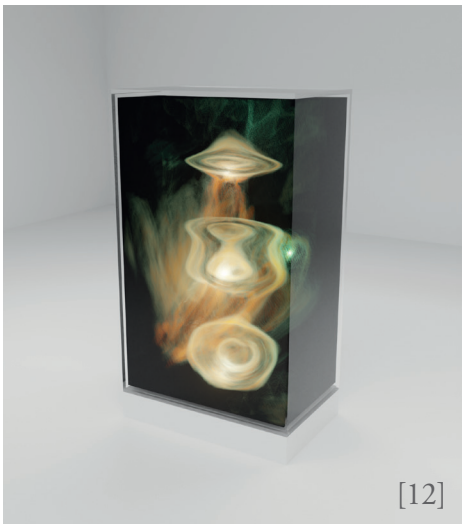
[11]

Nebula 001 in its capsule. Watch the video we sent to you to see how it evolved.

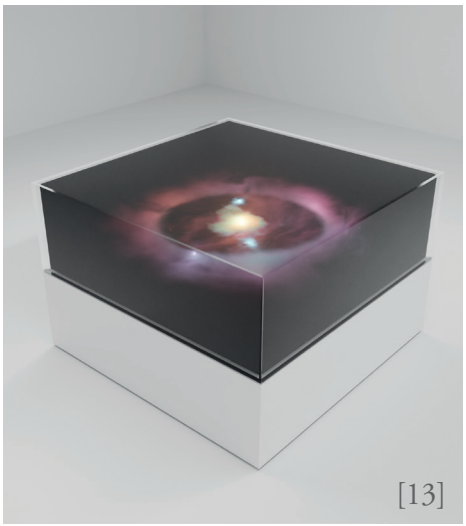
Exhibiting results:

In touch with the onthycal.

Perhaps, the major function of this experiment is a cultural one. What does it mean to be able to build a universe? Will our self-confidence build up till the point we feel we are gods? If that´s the case, will we find new and better ways to destroy ourselves? Figure [14] shows a small exhibition made at the Museo de Arte Contemporáneo (MAC), set to think about this problems widely, taking to account more people from diverse ages and fields of work in figuring out what we can do with this. Maybe if people knew about nuclear fission, and had a saying about it, a bomb would have being far away in our to-do list. We worked with professional artists in an effort to be as neutral as possible about the visual and conceptual information available. Hence the focus we made on direct (not obstructing with written information, for example) contact with the objects. The first possibility has to be fascination, in order to set beauty and contemplation as a starting point for discussion, questioning and knowledge. Productivity, and even the possibility of violence, can come along if people want it.



[12]



[13]

REFERENCES AND NOTES

Kenneth Goldsmith (Ubu Web), Stanley Kubrick (Space Oditty), Marcel Duchamp , Gabriela Mistral (Tala), Stephen Hawking, Salvador Dalí, Donna Haraway, Men I Trust (Oncle Jazz), Radiohead (Amnesiac), Faraday, Tesla, Carl Sagan, JWT Mitchel (Image Science), Nicholas Mirzoeff (How to see the world), Rembrandt, Violeta Parra (El Gavilán), Andrei Tarkovsky (Solaris), Spider Man movies, Star Wars, The martian, David Cronemberg.

ACKNOWLEDGEMENTS

A special thanks to every artist and scientist who has ever tried to find common grounds where we can let our creativity expand. Thanks to Marcelo del Campo, whose "Large Glass" was the mains inspiration to this endeavor. To professor Manríquez, a warm salute for his patience and persistence at the course he gave us. He gave us the spark. Regarding more academic issues, thanks to Universidad de Chile, they funded this project almost entirely. Specially the Magíster en Artes, Mención Artes Visuales. Thanks to Miguel Ángel San Martín for providing the mechanic graphics. We dedicate this research to every special effects artist who hasn´t being recognized.

[14]

This exhibition at MAC was an attempt to show, without any interference, the results of our experiment. Discussions about it are currently taking place in academic and non-academic spaces.