

Learning from the guardians: design with Indigenous and rural communities

Nicola J Bidwell (Nic)

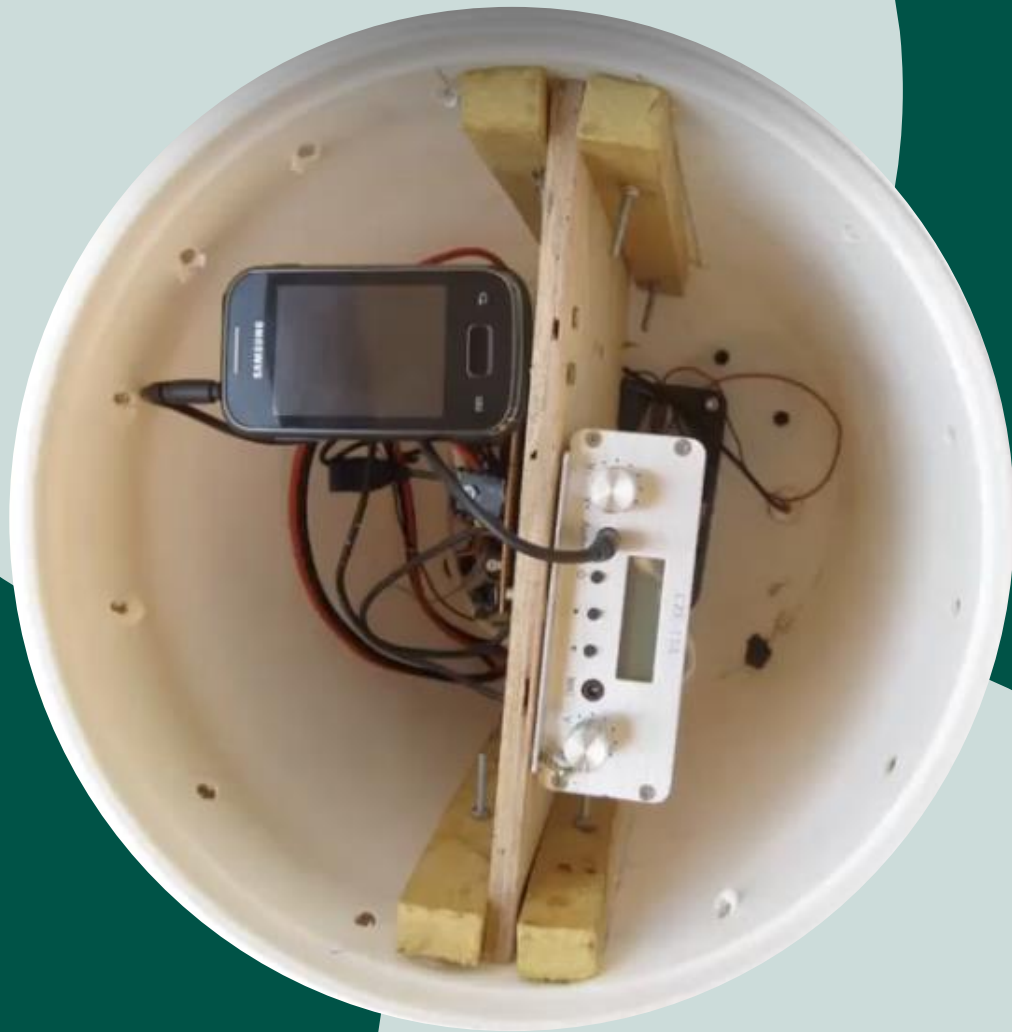
Charles Darwin University, Australia
Rhodes University, South Africa





I acknowledge that I live and work on the land of the Larrakia people, a land whose sovereignty remains un-ceded. I pay my respects to their Elders past and present and acknowledge that my work in Garramilla (Darwin) takes place on Aboriginal land.

I recognise that I have been, and am, a settler in Australia and southern Africa and I can only do my work because of the work of First Nations and Indigenous elders, activists, and thinkers.



Technology is entangled
in inseparable and co-
evolving relations
between humans and
natural environments

A large, simple stone cross stands on a grassy hill. The background features a range of mountains under a blue sky with some clouds. The cross is made of light-colored stone and has a wide base.

“ ... the radio is keeping the Mass on the island and it’s raising the profile of the entire island... technology is used to continue on the tradition of Catholicism in the area ”

Photo: Helen Riddell

Irish island

“ the Department of Culture, Heritage and the Gaeltacht reminds individuals, save for the permanent residents of those islands and those undertaking essential services, do not visit our offshore islands until 10 August ”





“

There are also fishermen from international contexts that are grounded on their boats in the local harbour. Used TTS and native language voice recording to message them to alert them to the content available in their native languages ”



Community Networks (CNs)

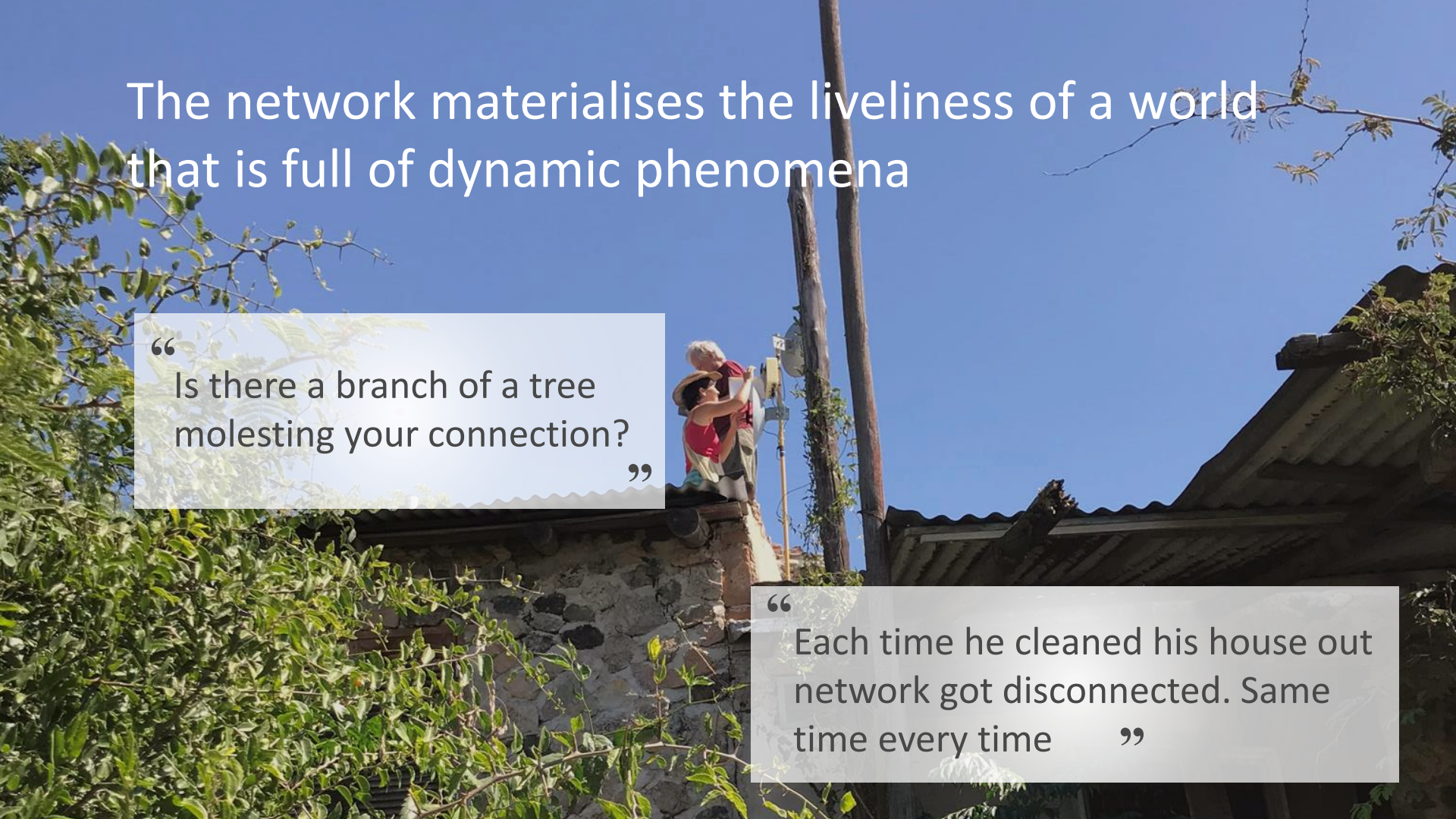
Network: technology supporting intranet and/or internet connection e.g. solar-powered Wi-Fi mesh.

Community: people who set-up, manage, use and decide about the network



“ . . . did a physical map by holding hands with those houses we could see [line-of-sight]. We realised that half of us couldn't see each other - those people on the other side of the river - as trees are high. ”

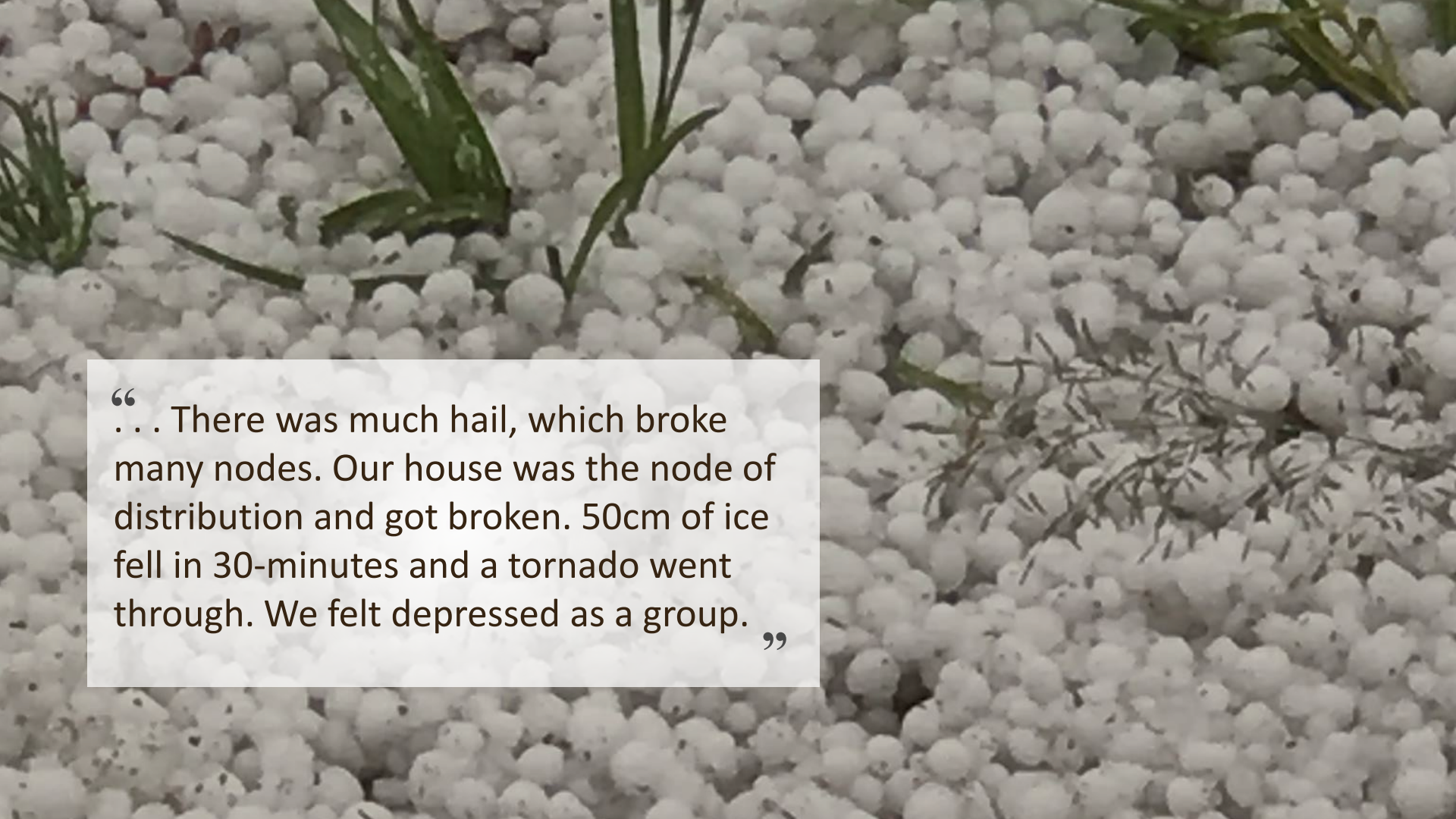
Altermudi,
Argentina



The network materialises the liveliness of a world
that is full of dynamic phenomena

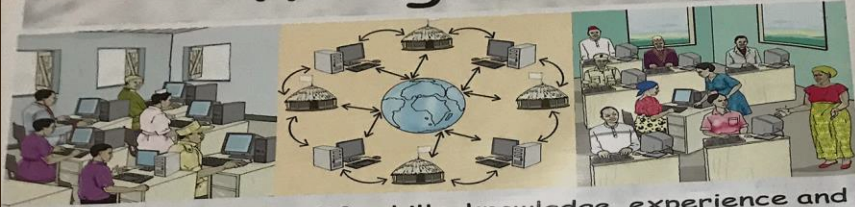
“
Is there a branch of a tree
molesting your connection?
”

“
Each time he cleaned his house out
network got disconnected. Same
time every time ”



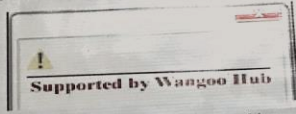
“ . . . There was much hail, which broke many nodes. Our house was the node of distribution and got broken. 50cm of ice fell in 30-minutes and a tornado went through. We felt depressed as a group. ”

"Wangoo" Hub



To exchange & share life skills, knowledge, experience and expertise towards improved livelihoods...

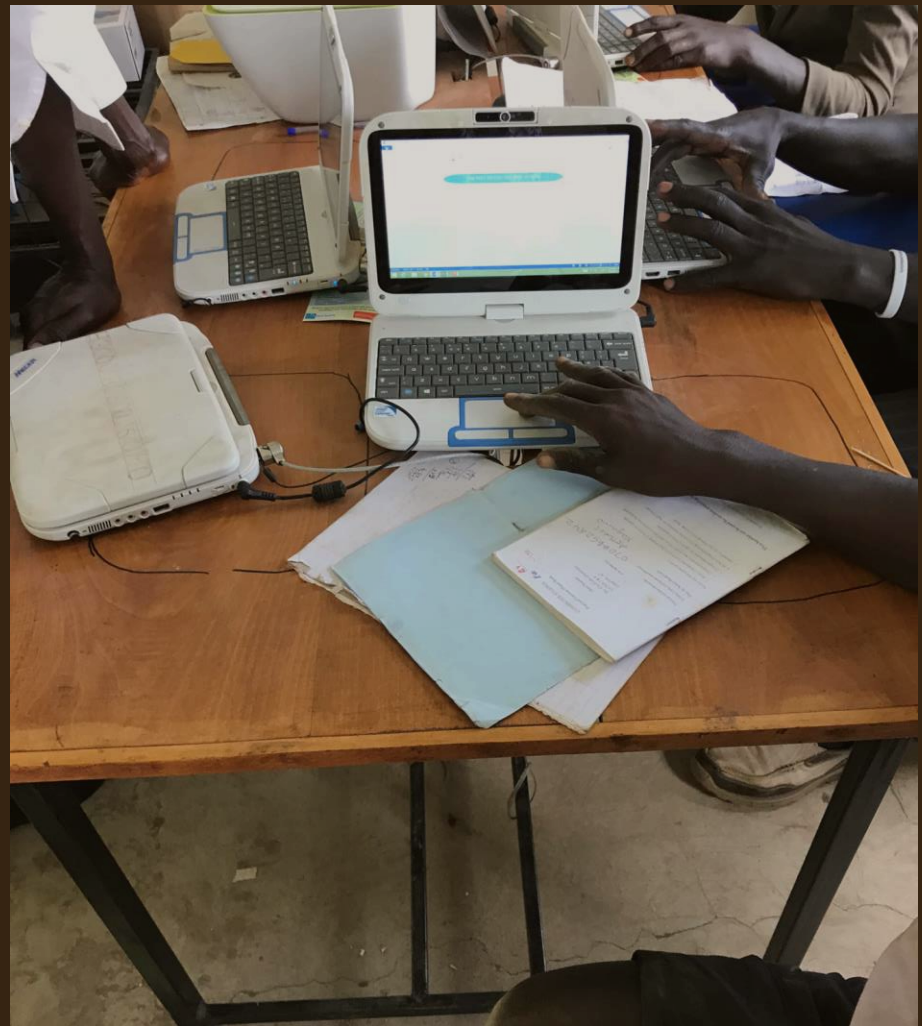
BECOME A MEMBER...



OPEN: Monday to Friday working
HOURS: 09:00am - 05:00pm

PHYSICAL LOCATION: Bardege ICT for Education & Research Centre
(Behind Uchumi Supermarket) in Gulu Municipality/District-Northern
Uganda in East Africa

Please also join our internal network at :-
bosco.home



**Bosco,
Uganda**



Share electricity, customers,
tools, knowledge and
problem-solving



“

... but when they come to the Gram Panchayat then they will be more *we feeling*... The thing of togetherness will be more. ... which is not happening nowadays people start using mobile phones and they use separate. ... more togetherness in the village, which is very necessary for the development of the village.

”

Gram Marg, India



Name	Age	Sex	Religion	Time
Jehan Mirret	40	M	Kanungwa	12:00 PM
MANTUE PAUL	52	M	Kanungwa	12:50 PM
Kagawa	20	F	Kanungwa	13:00
Molly Mwer	23	M	Kanungwa	13:00
Gen James	23	M	Kanungwa	13:00
Olesio Joe Khan	23	M	Kanungwa	14:00
Chomwe Jimmy	21	M	Kanungwa	2:15 PM
Lawrence Daniel C.	24	M	Kanungwa	2:15 PM
Talot Stephen	26	M	Kanungwa	15:00 PM
Pray Gostling Mungu	57	M	Kanungwa	03:30 PM
Olona KUNCE	23	F	Kanungwa	15:19
Lukwira Innocent	26	M	Kanungwa	03:31
St. Anthony				
6th Valhous Fries				
Myerowol prisca	19	F	old	8:12 AM
Ongem Alfred	25	M	old	9:04
Lawrence Daniel C.	24	M	old	9:10
Ernest Nyaka	23	M	old	9:45 AM
OLOK MICHAEL	29	M	old	9:54
Atim Betty	31	F	old	9:59
Nyema Allan	19	M	old	10:17 AM
Theris	31	M	old	11:05
	51	M	old	11:15
	28	M	old	11:16
	28	M	old	11:27
	55	M	old	



**I WAS ONLY WORRIED ABOUT
GETTING PREGNANT.**

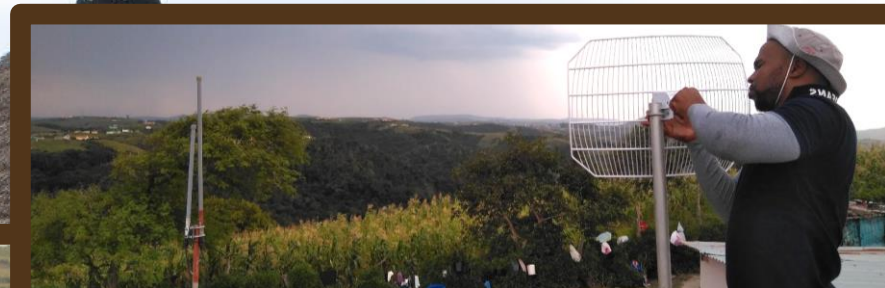


Bosco, Uganda



Mankosi,
South Africa





Mankosi,
South Africa

A photograph of a rural landscape. In the foreground, a woman in a pink shirt and shorts stands on the left, holding a white rectangular object above her head. Two other women are walking away from the camera on a dirt road that curves into the distance; they are carrying large bundles of sticks or branches on their heads. To the right of the road, two cows are standing. The background features rolling green hills and a large, dark, conical hill under a blue sky with some clouds. The overall scene suggests a rural, possibly agricultural, setting in a developing region.

Women in the Global Souths care for
and rely on the commons the most



**Oaxaca,
Mexico**

Concessions for social use of the radio spectrum by indigenous and community-based organizations to operate mobile networks.



Nyae-Nyae, Namibia



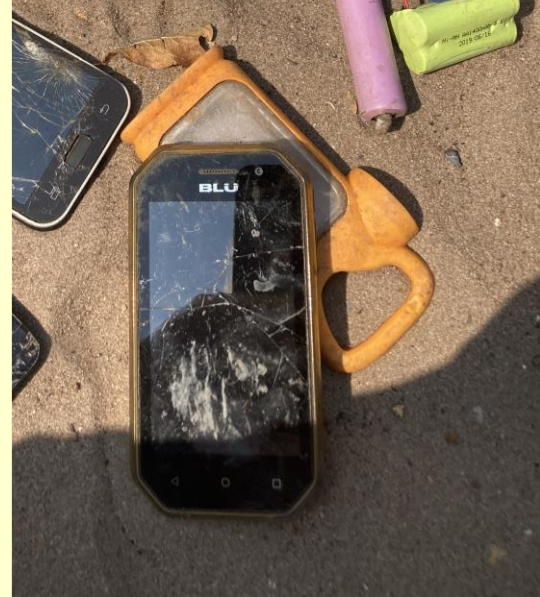


www.apc.org/en/huinom-project



<https://videos.apc.org/u/apc/m/talking-around-elephants-sb/>





Hope and imagination in the context of
uncertainty



Expert trackers ...

Observe signs and create causal connections
between them

Speculate about signs that are unclear or
otherwise meaningless

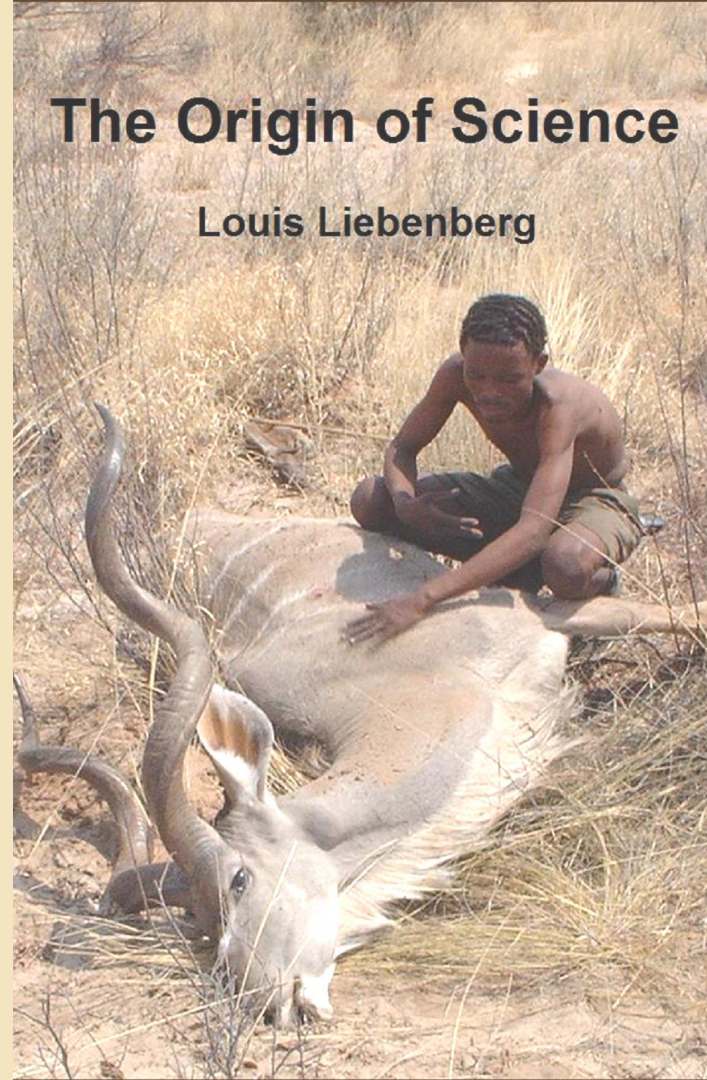
Gather every piece of relevant natural or cultural
information to enable “noticing” or “good sense”

Construct auxiliary hypotheses to explain
information that contradicts expectations

Increase opportunities to locate game and learn
about animal behaviour

The Origin of Science

Louis Liebenberg



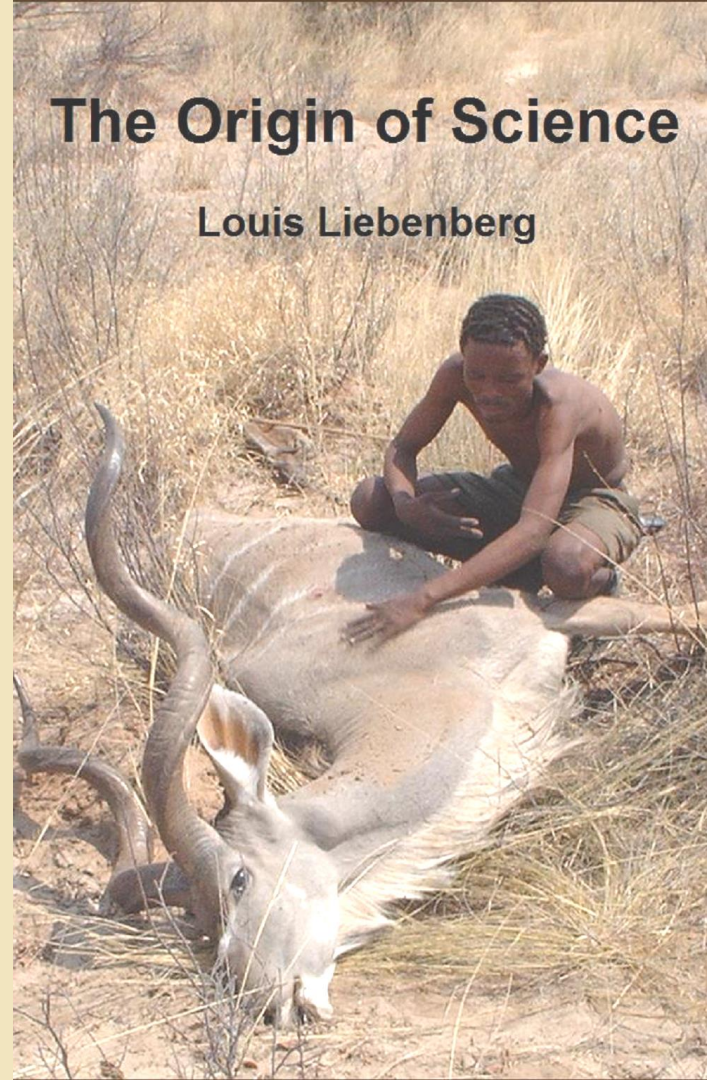
... think in terms of what they would have done if they had been the animal in order to anticipate and predict its movements.

The anthropomorphic nature of their knowledge of animal behavior is not necessarily unscientific ...

Liebenberg (2013)

The Origin of Science

Louis Liebenberg



... There was almost nothing that we could eat except the gemsbok beans that we could survive on and they were also hard to find as the veld fires also destroyed big parts of the nature. One good morning I woke up with hope that something good was going to happen that day. So, I decided to take a walk into the bush...

... After a while of walk I saw some footprints of wild dogs chasing after a kudu. Without hesitating I decide to track it down. Not far away I saw two male wild dogs just starting to feed on a kudu carcass. ... I was very delighted that we were going to have meat today.

... So, I went start to walk back to the village and came across a tree where I saw honey bees going in and out. Now we have meat and we have honey as well I said to myself quietly.

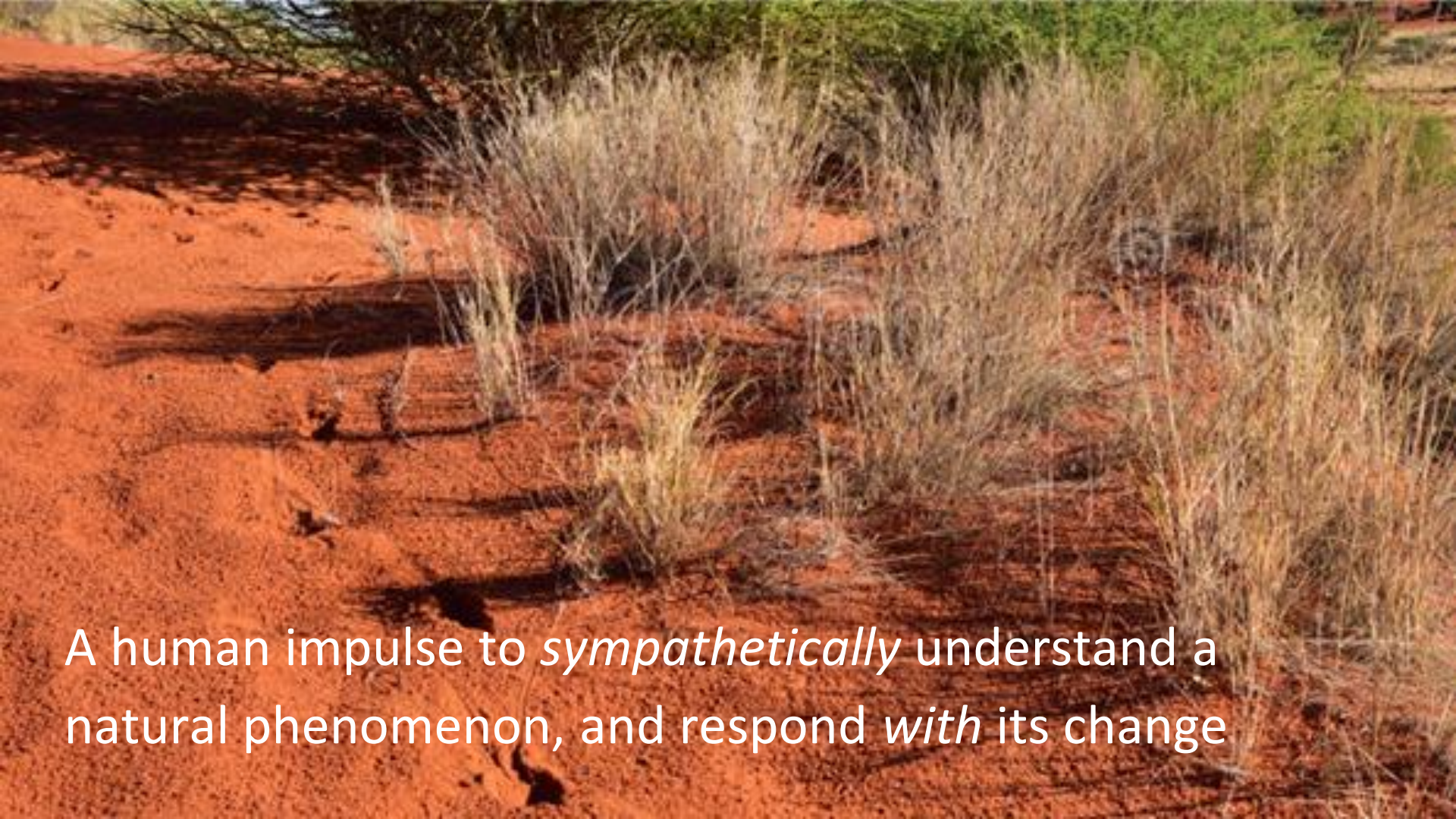


Charlie Nqeisji

Your thoughts are also playing a major role in what is going to happen.

Charlie Nqeisji





A human impulse to *sympathetically* understand a natural phenomenon, and respond *with* its change

“Living with weather”
Ian Gumbula, 2024



Larrakia,



“ ... the weather is part of country and people, it flows through the land and the people and connects to the spirit of the land. In country, normal weather comes through, such as the different winds, which are part of people’s Dreaming, their songs, and who a person is. ”

Ian Gumbula, 2024



Balawúrrwurr ngáddja ngarra-kaláya
WE HEARD THE WORDS OF THE WIND

<https://www.youtube.com/watch?v=G4xO5kmeGig>



Balawúrrwurr barrómaya ka-bala-ddjórrkka
THE WIND BROUGHT THE SPIRITS TO US





“ Our singers are gone now. They used to sing the rain, flood, fire. We don't have seniors to calm the weather, old people are telling us we must sing to make place alive. Jenny Manurulu, 2024 ”

A photograph of a mango tree with several large, green, oval-shaped fruits hanging from the branches. The leaves are dark green and dense. The background is a bright, overcast sky. The right side of the image is partially covered by a semi-transparent grey rectangle containing text.

Thank you

All research partners and
participants

ICT4S