

# Ebola: the roles of scientific and non scientific information



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# Science communication and behavioural change



- International scene



# The message: Theoretical perspectives

- Freire (1998) Extension or communication
  - Extension assumes message is going into a blank cognition
  - Communication assumes no one is ignorant and what you already know will influence what is new
- Habermas (1984; 1987; Burkart, 2007) Communicative action
  - Conditions for mutual understanding
    - intelligibility - unambiguous
    - truth - both parties accept the object exists
    - trustworthiness - parties trust each other
    - legitimacy - mutually accepted values and norms

# The message: Theoretical perspectives

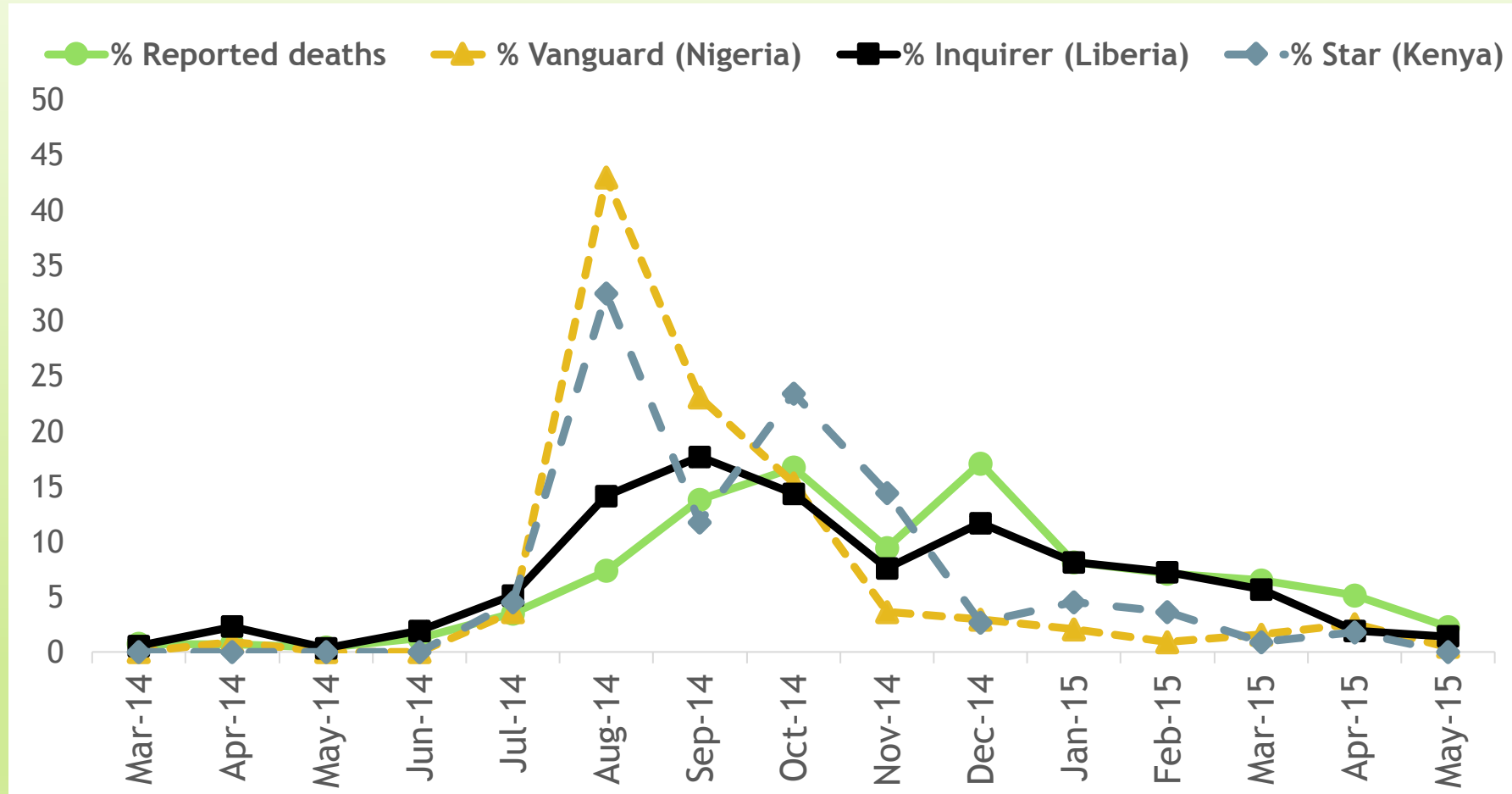
- Luhmann (1986) *The autopoiesis of social systems*
  - In addition to “information” and “utterance”, communication includes understanding but does not function to produce a consensus, instead, results in an open situation of acceptance or rejection.
- Moscovici (1976; 2008) *La Psychanalyse, son image et son public*
  - Three communication modalities: Propaganda, Propagation or Diffusion lead to Rejection, Accommodation or Acceptance (the reception of psychoanalysis in France in the 50's)



# The Ebola message in African newspapers

	2013	2014	2015	Total
<b>West Africa</b>				
This Day (Nigeria)		804	112	916
Vanguard (Nigeria)		699	102	801
The Inquirer (Liberia)		559	221	780
Concord Times (Sierra Leone)		85	349	434
The Analyst (Liberia)		237	3	240
Daily Observer (The Gambia)		130	24	154
FOROYAA (The Gambia)		44	22	66
Cameroon Tribune (Cameroon)		34	15	49
Ghanaian Chronicle (Ghana)		20	16	36
<b>East/Southern Africa</b>				
The Star (Kenya)		191	51	242
The New Times (Rwanda)	3	121	32	156
The Herald (Zimbabwe)		101	32	133
The Times of Zambia (Zambia)		55	18	73
New Era (Namibia)	1	44	6	51
The Namibian (Namibia)	3	31	6	40
The Independent (Uganda)	6	10	7	23
Zimbabwe Independent		4	3	7
<b>TOTAL</b>	<b>13</b>	<b>3169</b>	<b>1019</b>	<b>4201</b>

# The Ebola message in African newspapers



- Newspaper coverage and reported deaths
- Mass media as mirror of public anxiety over disease incidence

# The Ebola message: scientific information

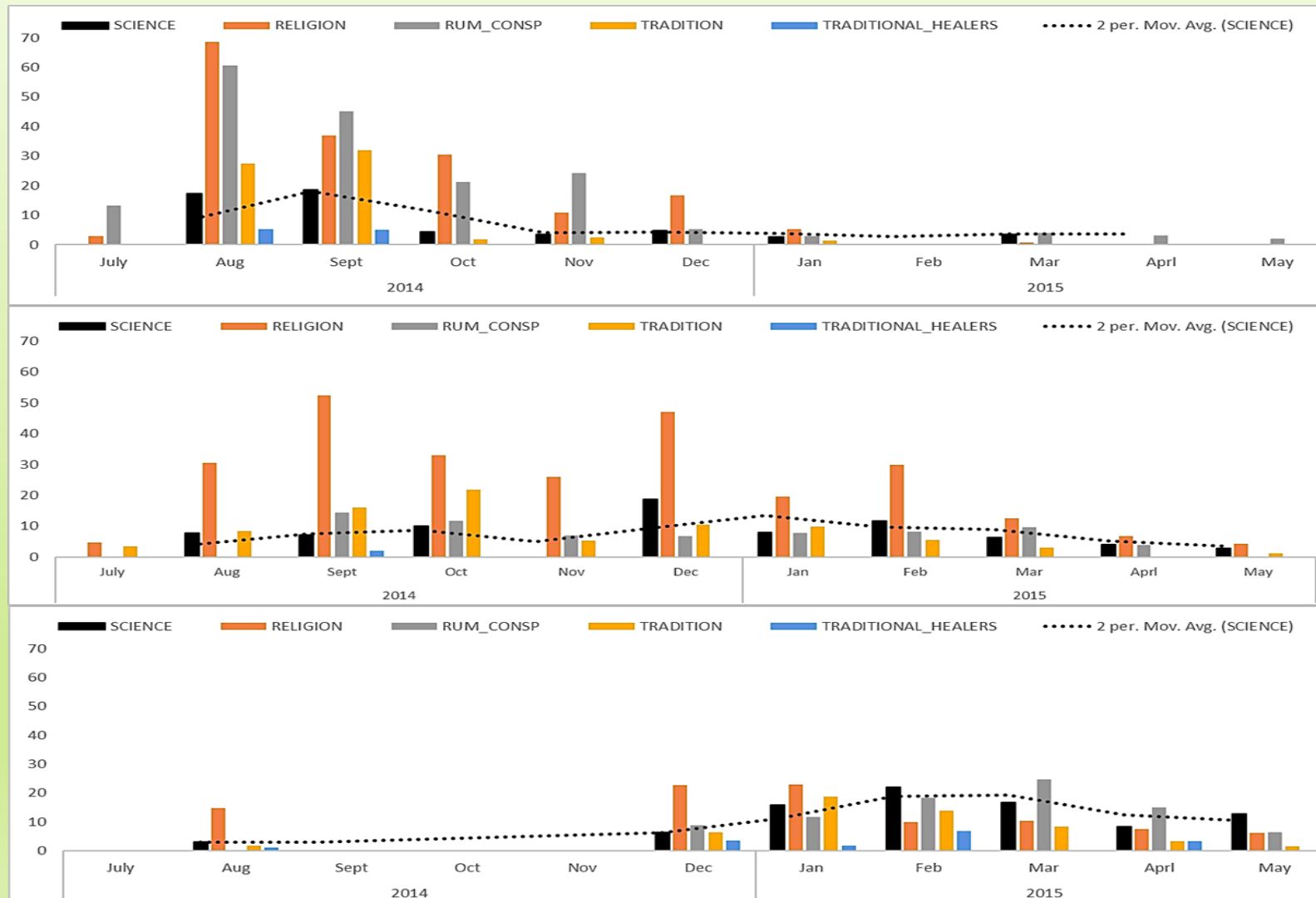
Theory	Keywords	Meaning units	Frames
Scientific information	Contracted, disease, infection, risk, transmit, vaccine, virus, viral disease	Ebola symptoms: Fever, vomiting, headache, muscle pain, diarrhoea, nausea, bleeding, etc	Containment Diffusion
		The 'uneducated' vs inadequate government responses	Obstacle
		Dengue, Lassa, Malaria symptoms: Fever, vomiting, headache, muscle pain, diarrhoea, nausea, bleeding.	Obstacle

# The Ebola message: non scientific information

Theory	Keywords	Meaning units	Frames
Traditions	Traditions, mourning, mats, traditional healers, spiritual healers	mourning, hugging, washing	Obstacle
		claims to cure	
		suspension of mourning, hugging etc.	Containment accommodation
Religious beliefs	Christian, religion church, mosque, Muslim, prayers. Spirits	laying of hands, praying for the sick	Obstacle
		Religious beliefs and gatherings Protection in prayer but avoid	Paradoxical accommodation
		Suspension of shaking hands, touching, care for sick	Containment accommodation
Rumours and conspiracy theories	Rumour, corruption	corruption, diversion, accountability.	Obstacle
		local remedy - salt, bitter kola	
		Rumours of spread of disease	Accommodation
	Conspiracy depopulation, racism, racist, stigma, terrorist, new world order	Conspiracy theories of spread	Stigma/revolt
		economics of an African disease	
		viral terrorism	
		bio terrorism, depopulation, new world order	Obstacle rejection



# Td-idf: Stat importance of sci and non sci information



Graphs of monthly changes in td-idf from July 2014 (19) to May 2015 (29).

Top to bottom:

*This Day* newspaper, Nigeria;  
*The Inquirer*, Liberia;  
*Concord Times* Sierra Leone\*

\*Data missing for September to November 2014.

# Scientific and non scientific information

- ▶ Ebola as a scientific phenomenon
  - ▶ The EVD shuts down the immune system, causing high fever, headache muscle pain, weakness, headaches, muscle aches and chills. Loss of appetite, feel diarrhoea and nausea.
  - ▶ Similarity with Lassa fever, Dengue fever and Malaria fever
- ▶ Ebola as spiritual disease - paradoxical accommodation
  - ▶ pastors were laying hands on the sick to cure them of “spiritual attacks”
  - ▶ a church leader told pastors that all those who fasted for 100 days should have no fear of Ebola but should avoid laying hands the sick
  - ▶ We must however keep away from Ebola but “The Prophet said: (There is no "Adwa") i.e. transfer of a disease by itself, but with the permission of Allah ...

# Scientific and non scientific information

- ▶ Ebola the plague of love and tradition
  - ▶ Bassonians, Kru and Grebo people spend time on mats mourning their dead ones and wash the bodies as part of traditional rites
  - ▶ Many traditional secret societies believe that following a covenant, a dead member's ghost will torment others if they failed to observe the traditional rites of passage of washing the corpse
  - ▶ Bat meat is good meat and social status enhancer
- ▶ African herbal cure
  - ▶ Promises of a cure was common on radio advertisements.
  - ▶ Preventive remedies: A soap from Liberia; drinking and bathing in salt water, so strong it was relayed by town criers and in churches and mosques; eating bitter cola

# Scientific and non scientific information

- ▶ Rumours and conspiracy theories
  - ▶ Bitter Kola and Nano Silver are not in the interest of western pharmaceuticals who are undermining the use of local cures
  - ▶ Former Gambia's president, Yahya Jammeh described the treatment of westerners with new drugs and the neglect of Africans as racism ... "The same thing was also done for HIV/AIDS ... Then who created the virus".
- ▶ Corruption an opportunity for sleaze
  - ▶ "We are so fraud - minded in Nigeria that even misfortunes excite us".
  - ▶ Inadequate controls over the disbursement of funds; missing generators, inflated payroll, missing allocations.
  - ▶ A community outreach worker: "They say ... 'we can give you a certificate from the Ministry of Health that it wasn't Ebola.' Sometimes it is \$40. Sometimes it is \$50. Then they offer bags to them and (the family) carry on their own thing."





# Scientific and non scientific information

- ▶ Poverty: hunger versus disease; food before medicine
  - ▶ Ebola is real, residents say but criticized government's actions which restricted people's movement as a containment measure, but which also left many with few survival options
- ▶ Stigma (Goffman, 1963) Notes on the management of spoiled identity
  - ▶ West point, Liberia, the ETU was looted by residents shouting "No Ebola". A government official said the looting was to render the facility unusable and stop the influx of the sick to the area.
  - ▶ In Guinea, the Red Cross and Doctors Without Borders officials were attacked by locals. Eight awareness officials were killed in another incident. Similar attacks took place in Sierra Leone.
  - ▶ A homeless man said friends drove him away when he was sick fearing he might have been infected with the Ebola virus. An 80-year-old man was denied access to his home even after being discharged



# Scientific and non scientific information

## Oral Polio Vaccine Controversy in Nigeria (Falade, 2015)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
Coverage	8	10	16	24	11	14	4	7	5	100
	Pre-revolt		Revolt					Post revolt		
Religious/Un-Islamic	6	10	3	2	0	0	0	0	0	2
Western conspiracy	0	5	12	24	9	0	0	7	0	9
Effective Vaccine	78	67	47	69	87	40	11	33	27	57
Risk from vaccine	6	0	6	0	0	0	0	0	0	1
Logistics/funding	0	10	29	4	0	53	89	60	73	26
Others/corruption	11	10	3	2	4	7	0	0	0	4
Percentage	100	100	100	100	100	100	100	100	100	100
No themes	4	5	6	5	3	3	2	3	2	

# Scientific and non scientific information

Vaccination controversies in history (Falade, 2014: 2018!?)

Country	Year	Communication themes/suspected effects	Opposing groups	Vaccine
United States	1721 to 1722	Transmits syphilis, black plague, leprosy	Clergy and scientists	Smallpox
England	1840 to 1871	Mark of the beast, against civil liberties, transmits syphilis	Working class, reformers, church, scientists, etc	Smallpox
United States	1890 to 1922	Medical tyranny, coercion, un-Godly	Scientists, anti-vaccination League, Christian Scientists	Smallpox
Brazil	1904	Torture code, vile secretions expelled from sick animals	Middle class, elite, church, press, congress, etc	Smallpox
United Kingdom	1974	Neurological complications	Scientists, public	DTP
Japan	1975	Neurological complications	(Fallout of UK episode)	DTP
United Kingdom	1998	Autism	Scientists, public	MMR



# Scientific and non scientific information

## Vaccination controversies

Country	Year	Communication themes/suspected effects	Opposing groups	Vaccine
USA, Australia, New Zealand	1998+	Autism	Fallout of UK episode)	MMR
Cameroon	1990	Sterilising vaccine	Catholic priests and opposition politicians	Tetanus Toxoid
Tanzania	1990	Sterilising vaccine (anti-hCG)	Scientists, Islamic preacher	Tetanus Toxoid
Nigeria	2001 to 2009	Western conspiracy, contaminated with HIV and anti-fertility substances	Islamic groups, politicians, scientists	OPV
United States	Post 2000	Asthma, diabetes, Gullian-Barre syndrome, encephalopathy, autism and inflammatory bowel disease, mercury exposure, etc	Scientists, the public	DT, DTaP, DTP, Hepatitis B, Measles, OPV, MMR, Rubella