



1  
00:00:09,680 --> 00:00:07,010  
well thank you for staying right through

2  
00:00:11,509 --> 00:00:09,690  
the almost end of the conference I want

3  
00:00:14,299 --> 00:00:11,519  
to talk about homeopathy because to me

4  
00:00:15,680 --> 00:00:14,309  
as a biologist although I'm actually not

5  
00:00:19,580 --> 00:00:15,690  
going to talk about biology in this

6  
00:00:23,330 --> 00:00:19,590  
lecture here and homeopathy is one of

7  
00:00:26,509 --> 00:00:23,340  
the big anomalies of the of the century

8  
00:00:28,099 --> 00:00:26,519  
and and it's a it's an interesting

9  
00:00:29,660 --> 00:00:28,109  
phenomena because like the previous

10  
00:00:32,569 --> 00:00:29,670  
speaker it doesn't really involve the

11  
00:00:35,720 --> 00:00:32,579  
chemistry and it involves more some kind

12  
00:00:38,510 --> 00:00:35,730  
of an energy assumedly that's stored in

13  
00:00:41,150 --> 00:00:38,520

the water so that's what I'm going to

14

00:00:42,920 --> 00:00:41,160

talk about overall conceptually and I

15

00:00:44,779 --> 00:00:42,930

wanted to start I don't have to look up

16

00:00:48,500 --> 00:00:44,789

there you look up there I'm looking here

17

00:00:50,510 --> 00:00:48,510

no reg about just like some of the basic

18

00:00:53,930 --> 00:00:50,520

principles of homeopathy for people who

19

00:00:57,110 --> 00:00:53,940

may not be familiar with the the details

20

00:00:59,420 --> 00:00:57,120

obviously it implies and involves some

21

00:01:01,330 --> 00:00:59,430

kind of a long term if not permanent

22

00:01:03,349 --> 00:01:01,340

storage of information in water

23

00:01:08,090 --> 00:01:03,359

homeopathic remedies once they're made

24

00:01:10,969 --> 00:01:08,100

last years if not months and they're

25

00:01:14,359 --> 00:01:10,979

they many of them are diluted to the

26  
00:01:16,520 --> 00:01:14,369  
point where the beyond Avogadro's number

27  
00:01:19,310 --> 00:01:16,530  
so that there are no physical chemical

28  
00:01:21,740 --> 00:01:19,320  
molecules present that process is called

29  
00:01:23,600 --> 00:01:21,750  
potentially is a potential potent

30  
00:01:27,800 --> 00:01:23,610  
cessation I can't even pronounce it

31  
00:01:30,289 --> 00:01:27,810  
which is a series of succussion and

32  
00:01:33,980 --> 00:01:30,299  
serial dilution succussion is just

33  
00:01:37,940 --> 00:01:33,990  
literally banging the sample on a book

34  
00:01:40,039 --> 00:01:37,950  
traditionally some even succuss on a

35  
00:01:42,859 --> 00:01:40,049  
Bible because you know the there's a

36  
00:01:45,620 --> 00:01:42,869  
book and there's a book but the the

37  
00:01:48,560 --> 00:01:45,630  
process is mechanical and and does

38  
00:01:51,440 --> 00:01:48,570

involve a person although some remedies

39

00:01:54,200 --> 00:01:51,450

are made with a machine and rumor has it

40

00:01:57,130 --> 00:01:54,210

they do not work as well as remedies

41

00:01:59,510 --> 00:01:57,140

that have been success by hand

42

00:02:01,940 --> 00:01:59,520

homeopathy needs to be distinguished

43

00:02:06,010 --> 00:02:01,950

with another phenomena called ultra low

44

00:02:08,419 --> 00:02:06,020

dilution pharmacology if you will where

45

00:02:11,599 --> 00:02:08,429

traditional scientists have observed

46

00:02:15,920 --> 00:02:11,609

that biological systems respond to very

47

00:02:19,220 --> 00:02:15,930

very low concentrations of chemicals not

48

00:02:21,830 --> 00:02:19,230

beyond Avogadro's number but on the

49

00:02:25,490 --> 00:02:21,840

order maybe 10 to the minus 12

50

00:02:27,940 --> 00:02:25,500

atena minus 11 molar which is in

51  
00:02:32,479 --> 00:02:27,950  
biological terms you know way below any

52  
00:02:34,879 --> 00:02:32,489  
known mechanism to occur

53  
00:02:37,220 --> 00:02:34,889  
so they're both anomalies but but

54  
00:02:39,080 --> 00:02:37,230  
homeopathy is a particular interest

55  
00:02:41,059 --> 00:02:39,090  
because there really are no chemicals

56  
00:02:43,009 --> 00:02:41,069  
present at all and one of the bizarre

57  
00:02:44,960 --> 00:02:43,019  
anomalies about homeopathy is that the

58  
00:02:46,369 --> 00:02:44,970  
more diluted the solution the more

59  
00:02:49,759 --> 00:02:46,379  
potent it is in terms of biological

60  
00:02:51,229 --> 00:02:49,769  
effect and the other bizarre really

61  
00:02:54,110 --> 00:02:51,239  
bizarre phenomena is that the

62  
00:02:57,170 --> 00:02:54,120  
homeopathic LED if you start with

63  
00:02:59,479 --> 00:02:57,180

physical led homeopathic LED for example

64

00:03:02,209 --> 00:02:59,489

has the opposite effect of LED on the

65

00:03:04,520 --> 00:03:02,219

body so it's some kind of an inverse

66

00:03:08,270 --> 00:03:04,530

space where you know we bring it to the

67

00:03:10,729 --> 00:03:08,280

whole concept tillers theory of inverse

68

00:03:14,719 --> 00:03:10,739

space as having opposite properties in

69

00:03:17,899 --> 00:03:14,729

our ordinary space-time reality most of

70

00:03:20,000 --> 00:03:17,909

the scientists who study this area

71

00:03:22,189 --> 00:03:20,010

believe that some kind of solvent change

72

00:03:25,460 --> 00:03:22,199

is involved because there are no

73

00:03:27,140 --> 00:03:25,470

physical solute molecules present there

74

00:03:29,330 --> 00:03:27,150

must be some kind of a permanent change

75

00:03:32,750 --> 00:03:29,340

in the solute I'll talk about that a bit

76

00:03:34,520 --> 00:03:32,760

later and another interesting phenomena

77

00:03:36,530 --> 00:03:34,530

is that when you measure these solvent

78

00:03:41,899 --> 00:03:36,540

changes as a function of dilution you

79

00:03:46,339 --> 00:03:41,909

get very non-linear effects so if you

80

00:03:49,219 --> 00:03:46,349

measure the structuring of the water you

81

00:03:50,569 --> 00:03:49,229

sometimes you get oscillatory phenomena

82

00:03:52,550 --> 00:03:50,579

this is as a function of dilution

83

00:03:55,759 --> 00:03:52,560

sometimes it goes up sometimes it goes

84

00:03:57,499 --> 00:03:55,769

down and the other last interesting

85

00:03:59,330 --> 00:03:57,509

important point is that when you take

86

00:04:02,839 --> 00:03:59,340

these structural changes and you measure

87

00:04:03,390 --> 00:04:02,849

them in a remedy they vary from day to

88

00:04:06,240 --> 00:04:03,400

day

89

00:04:08,429 --> 00:04:06,250

they vary from pharmacy to pharmacy so

90

00:04:14,280 --> 00:04:08,439

you know one wonders why homeopathy is

91

00:04:16,469 --> 00:04:14,290

even reproducible and why I mean why can

92

00:04:19,080 --> 00:04:16,479

even get any effects in the in the

93

00:04:20,969 --> 00:04:19,090

scientific literature because if one

94

00:04:22,110 --> 00:04:20,979

remedy is different from the next remedy

95

00:04:24,270 --> 00:04:22,120

how would you ever expect to get

96

00:04:27,240 --> 00:04:24,280

reproducible effects which is part of

97

00:04:28,680 --> 00:04:27,250

the problem in homeopathy and one of the

98

00:04:31,110 --> 00:04:28,690

reasons it's not been accepted

99

00:04:33,360 --> 00:04:31,120

despite that limitation there are still

100

00:04:37,770 --> 00:04:33,370

very many numerous double-blind clinical

101  
00:04:39,150 --> 00:04:37,780  
trials there are many articles that have

102  
00:04:41,700 --> 00:04:39,160  
been published in peer review journals

103  
00:04:43,680 --> 00:04:41,710  
meta analyses and all that stuff so

104  
00:04:46,260 --> 00:04:43,690  
there is a lot of hard scientific

105  
00:04:49,560 --> 00:04:46,270  
evidence these experiments have been

106  
00:04:50,700 --> 00:04:49,570  
done in vitro they've been done in with

107  
00:04:53,550 --> 00:04:50,710  
animals they've been done with humans

108  
00:04:56,070 --> 00:04:53,560  
and I personally believe that the reason

109  
00:04:58,830 --> 00:04:56,080  
that they have not been as reproducible

110  
00:04:59,879 --> 00:04:58,840  
as we might like is partly because we

111  
00:05:02,969 --> 00:04:59,889  
really don't know how to make a

112  
00:05:05,520 --> 00:05:02,979  
homeopathic remedy and partly because in

113  
00:05:07,800 --> 00:05:05,530

most of these studies they use a

114

00:05:10,189 --> 00:05:07,810

standard homeopathic remedy for a

115

00:05:12,659 --> 00:05:10,199

standard disease they don't

116

00:05:16,040 --> 00:05:12,669

individualize the treatments for the

117

00:05:19,980 --> 00:05:16,050

specific subject and real homeopathy

118

00:05:21,750 --> 00:05:19,990

designed a specific remedy or a series

119

00:05:24,149 --> 00:05:21,760

of remedies in accordance with the

120

00:05:26,159 --> 00:05:24,159

symptoms of the patient and when and

121

00:05:27,510 --> 00:05:26,169

most scientists who study the phenomena

122

00:05:30,089 --> 00:05:27,520

will just say well okay we're going to

123

00:05:32,189 --> 00:05:30,099

treat cancer or whatever and here's the

124

00:05:34,230 --> 00:05:32,199

state or we want to treat AIDS so we

125

00:05:35,790 --> 00:05:34,240

want to take homeopathic remedies that

126

00:05:37,950 --> 00:05:35,800

are known to enhance the immune system

127

00:05:42,000 --> 00:05:37,960

okay but you can't just arbitrarily take

128

00:05:43,620 --> 00:05:42,010

a single or even a blend of remedies

129

00:05:47,189 --> 00:05:43,630

like that and expect them to work across

130

00:05:50,700 --> 00:05:47,199

the full spectrum so having said all

131

00:05:53,279 --> 00:05:50,710

that it is homeopathy is still an

132

00:05:56,610 --> 00:05:53,289

anomaly so let's look a little bit at

133

00:05:58,560 --> 00:05:56,620

the solvent properties and but here's a

134

00:06:00,990 --> 00:05:58,570

demonstration of what typically happens

135

00:06:05,719 --> 00:06:01,000

in water when you have a solute which

136

00:06:09,540 --> 00:06:05,729

would be the little X positively charged

137

00:06:11,270 --> 00:06:09,550

boy I can't see that I guess you can I'm

138

00:06:14,270 --> 00:06:11,280

calling

139

00:06:16,040 --> 00:06:14,280

there which would be a solute molecule

140

00:06:18,379 --> 00:06:16,050

in this case with a positive charge so

141

00:06:20,510 --> 00:06:18,389

the negative parts of the water molecule

142

00:06:23,510 --> 00:06:20,520

will be attracted to it and then you end

143

00:06:26,960 --> 00:06:23,520

up with all these little water molecules

144

00:06:28,909 --> 00:06:26,970

clustering around the solute molecule

145

00:06:33,190 --> 00:06:28,919

well that phenomena is called hydration

146

00:06:37,970 --> 00:06:33,200

and that's well known and understood in

147

00:06:40,550 --> 00:06:37,980

in the physical chemistry of water and

148

00:06:42,260 --> 00:06:40,560

solute solvent interactions of course

149

00:06:43,730 --> 00:06:42,270

the problem in homeopathy is that that

150

00:06:47,950 --> 00:06:43,740

little molecule in the middle is no

151  
00:06:50,960 --> 00:06:47,960  
longer there so can the hydration

152  
00:06:53,770 --> 00:06:50,970  
structure remain after the molecule is

153  
00:06:55,940 --> 00:06:53,780  
removed and you know the standard

154  
00:06:58,750 --> 00:06:55,950  
physics here is that there are

155  
00:07:01,550 --> 00:06:58,760  
electrostatic interactions that hold the

156  
00:07:05,900 --> 00:07:01,560  
individual water molecules together and

157  
00:07:09,530 --> 00:07:05,910  
that is what maintains the stability of

158  
00:07:12,740 --> 00:07:09,540  
these structures now the problem is that

159  
00:07:15,950 --> 00:07:12,750  
these structures form and reform and

160  
00:07:18,920 --> 00:07:15,960  
over you know fractions of a second so

161  
00:07:20,960 --> 00:07:18,930  
whatever information might be stored in

162  
00:07:24,350 --> 00:07:20,970  
the middle rather than a chemical

163  
00:07:25,850 --> 00:07:24,360

structure it dissipates and then the

164

00:07:28,940 --> 00:07:25,860

information dissolves and then it

165

00:07:30,920 --> 00:07:28,950

reforms again so this particular theory

166

00:07:33,230 --> 00:07:30,930

about what's going on in homeopathy I

167

00:07:36,170 --> 00:07:33,240

believe is not really accurate to

168

00:07:39,620 --> 00:07:36,180

describe how long-term information can

169

00:07:43,580 --> 00:07:39,630

be stored in water now water itself is

170

00:07:45,170 --> 00:07:43,590

particularly an anomalous and this is

171

00:07:48,200 --> 00:07:45,180

nothing to do with homeopathy just

172

00:07:49,820 --> 00:07:48,210

initially just water itself I mean water

173

00:07:55,550 --> 00:07:49,830

has a very very high dielectric constant

174

00:07:57,409 --> 00:07:55,560

and from all other liquids and of course

175

00:07:59,659 --> 00:07:57,419

it's a good thing because water

176

00:08:02,420 --> 00:07:59,669

surrounds all biomolecules and bio

177

00:08:04,130 --> 00:08:02,430

molecules and cells have a very strong

178

00:08:05,990 --> 00:08:04,140

particularly cells have a very strong

179

00:08:11,210 --> 00:08:06,000

electric field of course the cell

180

00:08:13,400 --> 00:08:11,220

membrane so we need a solvent around the

181

00:08:15,560 --> 00:08:13,410

molecule the surface of the membrane

182

00:08:18,020 --> 00:08:15,570

that would be compatible with such a

183

00:08:21,200 --> 00:08:18,030

strong electric field but the more

184

00:08:25,580 --> 00:08:21,210

common familiar anomalous properties of

185

00:08:28,960 --> 00:08:25,590

water are examples of the fact that it

186

00:08:32,269 --> 00:08:28,970

when it is in a solid state it has a

187

00:08:35,360 --> 00:08:32,279

high density yet it floats and this is a

188

00:08:38,659 --> 00:08:35,370

kind of a typical anomaly that we're all

189

00:08:40,250 --> 00:08:38,669

familiar with but other anomalies occur

190

00:08:41,810 --> 00:08:40,260

within the actual structure of water

191

00:08:44,180 --> 00:08:41,820

where it's known that I mean water is

192

00:08:48,130 --> 00:08:44,190

considered to be bulk liquid water and

193

00:08:50,980 --> 00:08:48,140

there are known ice like liquid crystal

194

00:08:52,970 --> 00:08:50,990

entities that occur within the bulk and

195

00:08:55,490 --> 00:08:52,980

that's kind of bizarre because it

196

00:08:58,400 --> 00:08:55,500

doesn't occur in other liquids water

197

00:08:59,960 --> 00:08:58,410

tends to flow in spirals and of course

198

00:09:03,800 --> 00:08:59,970

the main phenomena that we're talking

199

00:09:06,380 --> 00:09:03,810

about here is is water memory and what a

200

00:09:07,880 --> 00:09:06,390

memory and although it's an anomaly and

201  
00:09:10,550 --> 00:09:07,890  
not really accepted by mainstream

202  
00:09:14,269 --> 00:09:10,560  
science what a memory associated with

203  
00:09:17,210 --> 00:09:14,279  
hydration and salvation is reported in

204  
00:09:20,510 --> 00:09:17,220  
the scientific literature and known to

205  
00:09:23,750 --> 00:09:20,520  
exist as a phenomena but when it comes

206  
00:09:25,910 --> 00:09:23,760  
to in information and energy stored in

207  
00:09:31,280 --> 00:09:25,920  
water that then we really get into

208  
00:09:35,930 --> 00:09:31,290  
never-never land so I now here I want to

209  
00:09:37,639 --> 00:09:35,940  
distinguish between water sorry

210  
00:09:41,210 --> 00:09:37,649  
homeopathic remedies made with chemicals

211  
00:09:43,970 --> 00:09:41,220  
and those made with electricity or

212  
00:09:45,500 --> 00:09:43,980  
magnetism and and Hahnemann himself was

213  
00:09:47,600 --> 00:09:45,510

the first person to realize that you

214

00:09:49,490 --> 00:09:47,610

could make a homeopathic remedy not

215

00:09:51,530 --> 00:09:49,500

starting from a chemical but starting

216

00:09:55,420 --> 00:09:51,540

with a electric field and they were

217

00:09:57,670 --> 00:09:55,430

called electric heaters and magnet