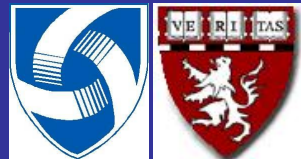


# THE NATURAL HISTORY OF ADDICTION

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SPIRITUAL

A Scientific Defense of Faith

GEORGE E. VAILLANT, M.D.

EVOLUTION

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	<b>KNOWN RX EXPOSURES</b>	<b>% FOLLOWED BY 1 YR ABSTINENCE</b>
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**100 HEROIN ADDICTS**

HOSPITAL DETOX.	<b>361</b>	<b>3%</b>
SHORT PRISON SENT.	<b>363</b>	<b>3%</b>
PRISON & PAROLE	<b>34</b>	<b>71%</b>
METHADONE MAINT.	<b>15</b>	<b>67%</b>

**100 ALCOHOLICS**

HOSPITAL DETOX.	<b>c1500</b>	<b>3%</b>
300+ VISITS TO AA	<b>19</b>	<b>74%</b>

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## ATTRITION IN CORE CITY SAMPLE (AGE 60)

	CORE CITY SAMPLE
<b>NUMBER IN ORIGINAL COHORT (AGE 14)</b>	<b>456</b>
<b>LOST</b>	<b>4</b>
<b>DEAD BEFORE AGE 47</b>	<b>17</b>
<b>DROPPED BY AGE 47</b>	<b>21</b>
<b>ADEQUATE DATA (AGE 47)</b>	<b>414</b>
<b>DEAD BEFORE AGE 55</b>	<b>37</b>
<b>DROPPED BY AGE 60</b>	<b>34</b>
<b>INCOMPLETE DATA</b>	<b>32</b>
<b>ALCOHOL ABUSE/DEPENDENCE</b>	<b>150</b>
<b>ALCOHOL DEPENDENCE</b>	<b>77</b>
<b>ADEQUATE DATA (AGE 60)</b>	<b>311</b>
<b>ALCOHOL ABUSERS FOLLOWED UNTIL AGE 60 OR UNTIL DEATH</b>	<b>124</b>

## RISK FACTORS FOR ALCOHOLISM

	<b>SOCIAL DRINKER n = 203</b>	<b>ALCOHOL ABUSE n = 45</b>	<b>ALCOHOL DEPENDENT n = 79</b>
<hr/>			
<b><u>RISK</u></b>			
<b>MULTIPLE ALC RELATIVES</b>	<b>33%</b>	<b>52%</b>	<b>63%***</b>
<b>ANTISOCIAL &lt; 14</b>	<b>3%</b>	<b>6%</b>	<b>12%***</b>
<b>ANTISOCIAL AS ADULT</b>	<b>2%</b>	<b>7%</b>	<b>29%***</b>
<b>&lt; 10 GRADES OF SCHOOL</b>	<b>29%</b>	<b>48%</b>	<b>43%***</b>
<b>HEAVY SMOKER (80+ PACK/YR)</b>	<b>8%</b>	<b>16%</b>	<b>28%***</b>
<hr/>			
<b><u>PROTECTIVE</u></b>			
<b>MEDITERRANEAN</b>	<b>42%</b>	<b>22%</b>	<b>8%***</b>
<b>COLLEGE</b>	<b>42%</b>	<b>32%</b>	<b>21%***</b>

\*\*\*p < .001

## SOCIAL CLASS AND FUTURE ALCOHOLISM

<b>CHILDHOOD SOCIAL CLASS</b>	<b>CORE CITY n=412 % Alc Dep</b>		<b>COLLEGE n=168 % Alc Abuse</b>	
I Upper			<b>28%</b>	<b>n=53</b>
II Upper Middle	<b>n=(3)</b>	<b>(33%)</b>	<b>24%</b>	<b>n=67</b>
III Middle	<b>n=38</b>	<b>21%</b>	<b>13%</b>	<b>n=38</b>
IV Lower	<b>n=249</b>	<b>18%</b>		
V "Underclass"	<b>n=122</b>	<b>18%</b>		
statistical significance <span style="margin-left: 200px;">n.s.</span> <span style="margin-left: 100px;">n.s.</span>				

## COLLEGE SAMPLE (N=168)

**% Alc. Abuse      Sig.**

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### CAUSE

<b>No Alc. Relatives</b>	<b>10%</b>	<b>p&lt;.0001</b>
<b>Multiple Alc. Relative</b>	<b>57%</b>	

### RESULTS

<b>Excellent Health at 65</b>	<b>0%</b>	<b>p&lt;.0001</b>
<b>Dead at 65</b>	<b>52%</b>	
<b>Best Mental Health at 65</b>	<b>9%</b>	<b>p&lt;.001</b>
<b>Worst Mental Health at 65</b>	<b>8%</b>	

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## CORE CITY SAMPLE (n=407)

**% Alcohol Depend.**

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### CAUSE - ETHNICITY

Mediterranean	n=131	4%
Irish - WASP	n=218	26%

### RESULT - ADULT SOCIAL CLASS

II Upper Middle	n=38	5%
III Middle	n=175	13%
IV Lower	n=154	23%
V "Underclass"	n=40	38%

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<b>CLINIC Rx</b>	<b>EVER ABSTINENT n=49</b>	<b>SECURELY ABSTINENT n=21</b>
<b>1. PSYCHOTHERAPY</b>	<b>8%</b>	<b>5%</b>
<b>2. DISULFIRAM (ANTABUSE)</b>	<b>4%</b>	<b>5%</b>
<b>3. HALFWAY HOUSE</b>	<b>6%</b>	<b>0%</b>
<b>4. ALCOHOL CLINIC OR HOSPITAL</b>	<b>30%</b>	<b>20%</b>
<b>5. ALCOHOLICS ANONYMOUS</b>	<b>37%</b>	<b>38%</b>
<b>6. WILLPOWER</b>	<b>49%</b>	<b>43%</b>

Detoxification = **95% relapse**

Disulfiram, Acamprosate, Naltrexone  
no better than placebo

## LENGTH OF ABSTINENC VERSUS EVENTUAL RELAPSE

	<b># STILL ABSTINENT</b>	<b>RELAPSED THAT YEAR</b>	<b>EVER RELAPSED</b>
<b>AFTER 2 YEARS</b>	<b>82</b>	<b>15</b>	<b>39%</b>
<b>AFTER 3 YEARS</b>	<b>67</b>	<b>4</b>	<b>25%</b>
<b>AFTER 4 YEARS</b>	<b>63</b>	<b>4</b>	<b>21%</b>
<b>AFTER 5 YEARS</b>	<b>59</b>	<b>7</b>	<b>15%</b>
<b>AFTER 6 YEARS</b>	<b>52</b>	<b>2</b>	<b>4%</b>

## FATE OF ALCOHOL ABUSERS

	<b>COLLEGE n=52</b>	<b>CORE CITY n=124</b>
<b>Stable abstinence</b>	<b>19%</b>	<b>38%*</b>
<b>Controlled drinking</b>	<b>10%</b>	<b>15%</b>
<b>Reclassified social drinker</b>	<b>11.5%</b>	<b>6%</b>
<b>Chronic alcohol abuse</b>	<b>59.5%</b>	<b>41%</b>
<b>Dead by age 60</b>	<b>15%</b>	<b>28%</b>
<b>Dead by age 70</b>	<b>37% (vs. 14% of controls)</b>	

\* p=.02

## MORTALITY AMONG ALCOHOLICS

	<b>Vaillant's Alcoholic Abusers at Age 75</b>	<b>Matching Non Alcoholic at Age 75</b>	<b>Vaillant's Observed/ Expected Mortality</b>	<b>Comparison Studies Observed/ Expected Mortality</b>
	<b>n = 210</b>	<b>n = 462</b>	<b>n = 672</b>	<b>n = 300</b>
<b>DEAD</b>	<b>52%</b>	<b>28%</b>	<b>2.0</b>	<b>2.0</b>
<b>UNNATURAL</b>	<b>11%</b>	<b>2%***</b>	<b>5.5</b>	<b>7</b>
<b>CIRRHOSIS</b>	<b>3%</b>	<b>0.5%</b>	<b>6.0</b>	<b>6-10</b>
<b>LUNG CANCER</b>	<b>10%</b>	<b>3%***</b>	<b>3.3</b>	<b>NA</b>
<b>HEART</b>	<b>15%</b>	<b>8%*</b>	<b>1.6</b>	<b>1.6</b>
<b>OTHER DEATHS</b>	<b>13%</b>	<b>16%</b>	<b>1.0</b>	<b>NA</b>

## ALCOHOLISM, TOBACCO SYNERGY AT AGE 65

	<b>&lt; 40 Pack Years</b>	<b>40+ Pack Years</b>
<b>No Alcohol Dependence</b>	<b>n = 354 DEAD = 16%</b>	<b>n = 184 DEAD = 28%</b>
<b>Alcohol Dependence</b>	<b>n = 19 DEAD = 32%</b>	<b>n = 68 DEAD = 47%</b>

# CONTROLLED VS ABSTINENT DRINKING

<u>1992 STATUS</u>	<u>1977 STATUS</u>	
	3+ YEARS OF ABSTINENCE n=21	3+ YEARS CONTROL DRINKING n=22
ABSTINENT	18	3
CONTROLLED DRINKING	1	8*
RELAPSE	1	7
DROPPED OUT OR LOST	1	4

\* Three of these 8 men reclassified

## NO DIFFERENCE

	<b>STABLE ABSTINENCE n = 48</b>	<b>CHRONIC ALCOHOLISM n = 55</b>
<b>8+ Alcohol Problems</b>	<b>42%</b>	<b>42%</b>
<b>Multiple Alcoholic Relatives</b>	<b>65%</b>	<b>53%</b>
<b>Antisocial &lt; Age 14</b>	<b>13%</b>	<b>7%</b>
<b>Antisocial as Adult</b>	<b>17%</b>	<b>20%</b>
<b>&lt; 10 Grades of School</b>	<b>42%</b>	<b>47%</b>
<b>Heavy Smoker (80+ pack/yr)</b>	<b>27%</b>	<b>18%</b>

## PREDICTORS OF RECOVERY

	<b>STABLE ABSTINENCE n = 58</b>	<b>CHRONIC ALCOHOLISM n = 86</b>
<b>CORE CITY</b>	83%	64%*
<b>BINGE DRINKER</b>	63%	40%*
<b>30+ MTG OF AA</b>	29%	6%***
<b>ALCOHOL DEPENDENT</b>	67%	43%**
	<b>(n = 48)</b>	<b>(n = 55)</b>
<b>IRISH</b>	36%	22%*
<b>MEDITERRANEAN</b>	6%	18%*

\*p < .05

\*\* p < .01

\*\*\* p < . 001

NON-CLINIC Rx	EVER ABSTINENT N=49	SECURELY ABSTINENT N=21
<b>1. SUBSTITUTE DEPENDENCY</b>	53%	67%
<b>2. COMPULSORY SUPERVISION</b>		
a. Sustained confrontation	24%	0%
b. Medical consequences	49%	48%
<b>3. ENHANCED HOPE/SELF-ESTEEM</b>		
	12%	19%
a. Increased religious involvement	37%	38%
b. Alcoholics Anonymous		
<b>4. NEW LOVE RELATIONSHIP</b>	32%	38%

## WHAT IS AA?

- 1. Our leaders are trusted servants; they do not govern.**
- 2. We own no property.**
- 3. We are not a religion.**
- 4. The minority opinion is important.**
- 5. No one holds the same job for very long**

## MILLER'S 8-YEAR FOLLOW-UP

	<b>100+ AA MEETINGS</b>	<b>&lt;100 AA MEETINGS</b>
	<b>n = 13</b>	<b>n = 81</b>
<b>ABSTINENT</b>	<b>7 (53%)</b>	<b>16 (20%)</b>
<b>NOT ABSTINENT</b>	<b>6</b>	<b>65</b>

*P = .03 Yates correction*

## STABLE ABSTINENCE

	<b>STABLE ABSTINENCE</b>	<b>CHRONIC ALCOHOLIC</b>
	<b>n = 29</b>	<b>n = 47</b>
<b>300+ AA VISITS</b>	<b>48%</b>	<b>2%</b>
<b>ADM. SOCIAL STABILITY</b>	<b>28%</b>	<b>6%</b>
<b>NEITHER*</b>	<b>24%</b>	<b>92%</b>

*\* Nobody with both*

## AA WORKS FINE!

	<b>COLLEGE COHORT</b>		<b>CORE CITY COHORT</b>	
	<b>Abstinent n = 9</b>	<b>Chronicity n = 32</b>	<b>Abstinent n = 57</b>	<b>Chronicity n = 44</b>
<b>AGE FIRST ALCOHOLIC</b>	<b>34 ± 9</b>	<b>42 ± 10</b>	<b>28 ± 9</b>	<b>31 ± 11</b>
<b>YRS. OF ACTIVE ALCOHOLISM</b>	<b>20 ± 11</b>	<b>23 ± 10</b>	<b>18 ± 9</b>	<b>22 ± 10***</b>
<b>PROBLEM DRINKING SCORE</b>	<b>9 ± 3.0</b>	<b>6 ± 2***</b>	<b>9.7 ± 3.8</b>	<b>8.3 ± 3.3*</b>
<b>AA MEETINGS</b>	<b>137 ± 155</b>	<b>2 ± 9***</b>	<b>143 ± 327</b>	<b>8 ± 30***</b>

\*p < .05    \*\*p < .01    \*\*\*p < .001    Students t-test