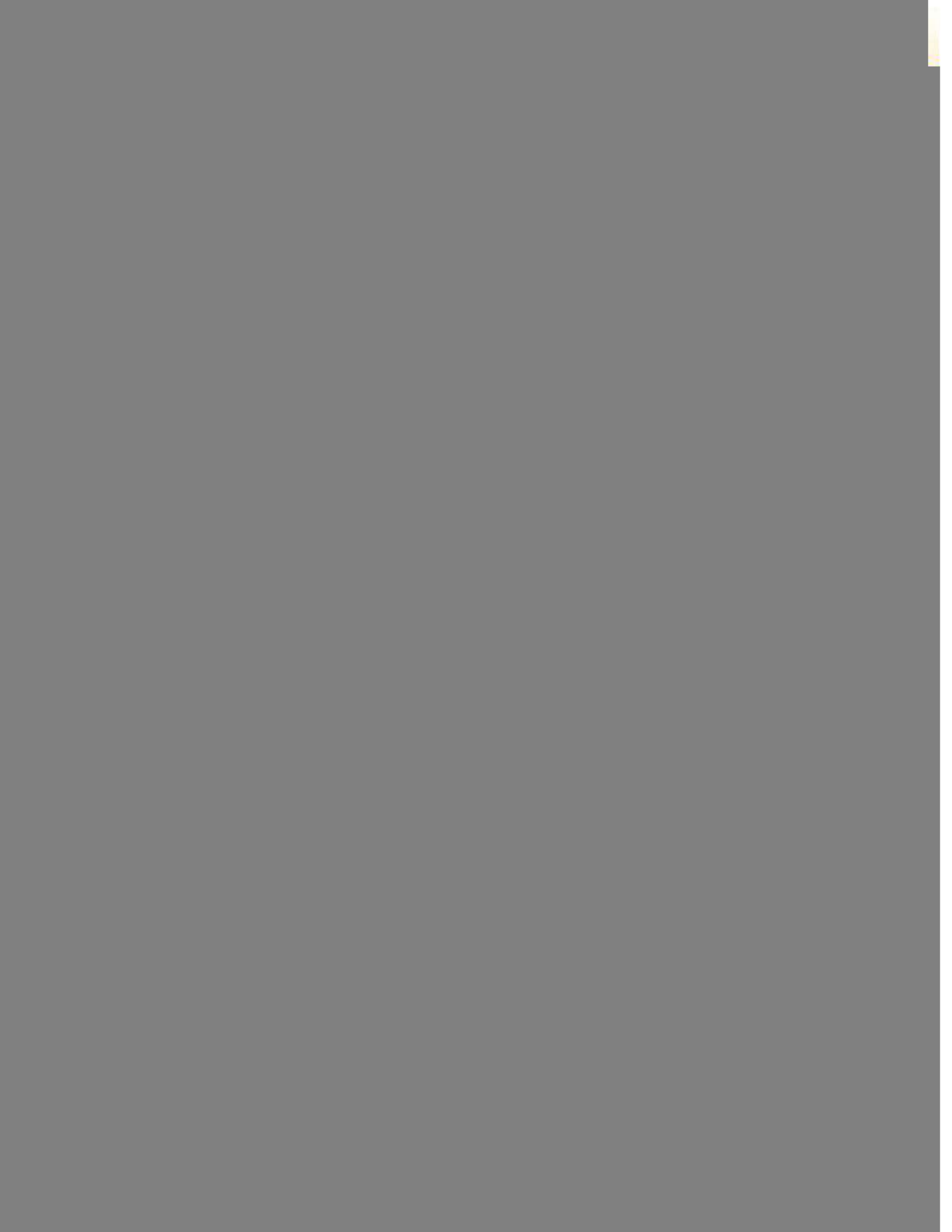


ing

1971

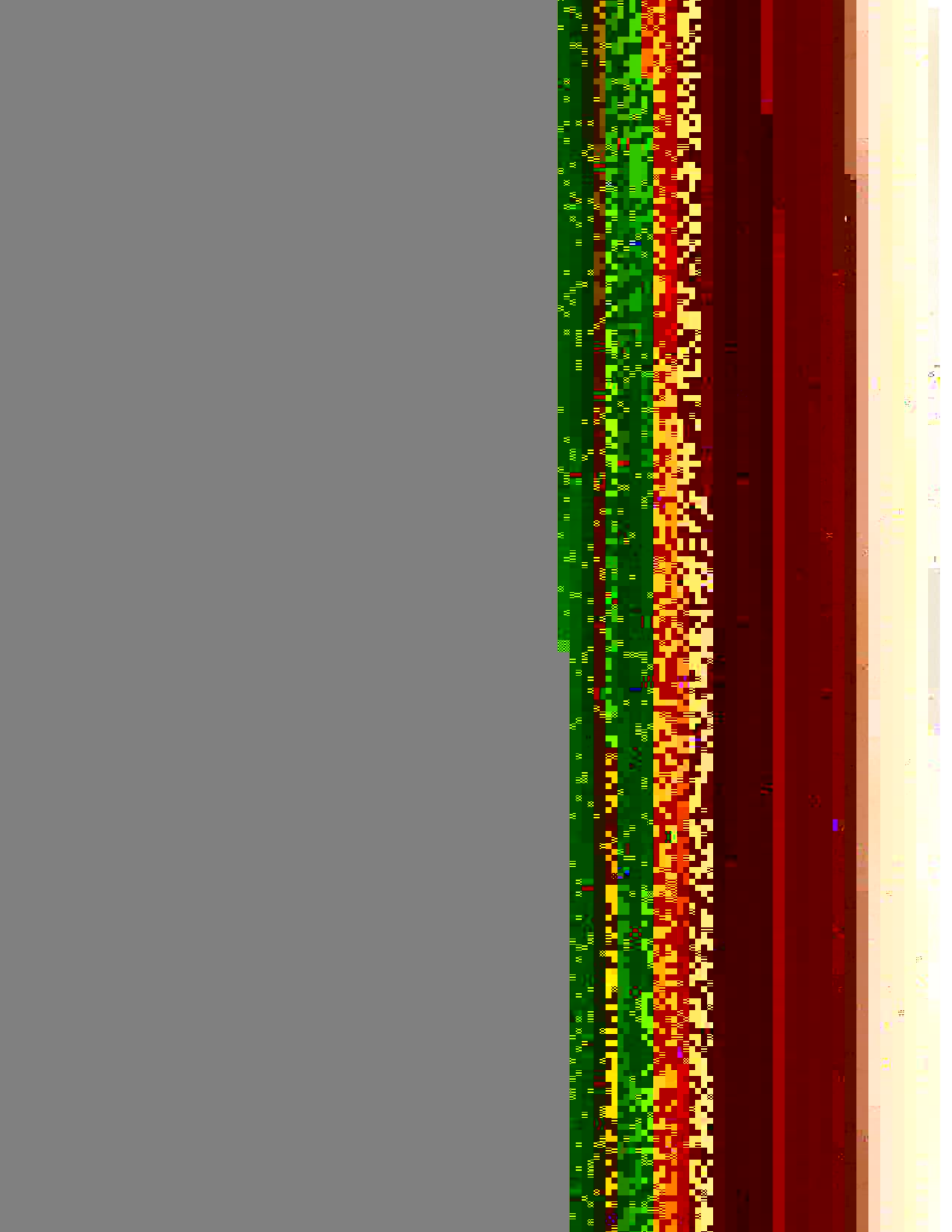






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found to be marginally feasible for only a few of the radioisotopes currently used.







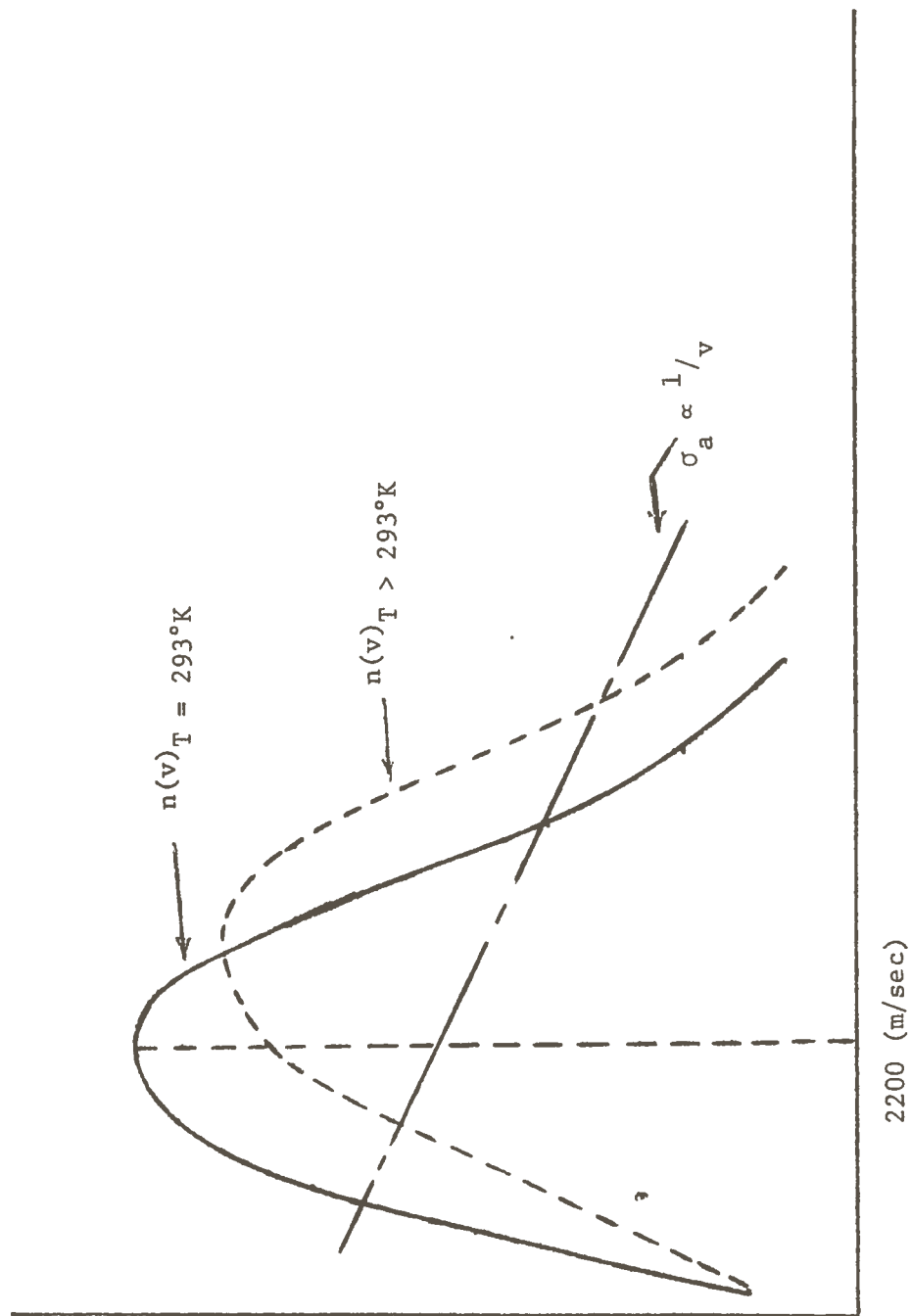


FIGURE 2. Maxwellian Velocity Distribution of Neutrons and Thermal Absorption Cross Section (for $1/v$ absorber).



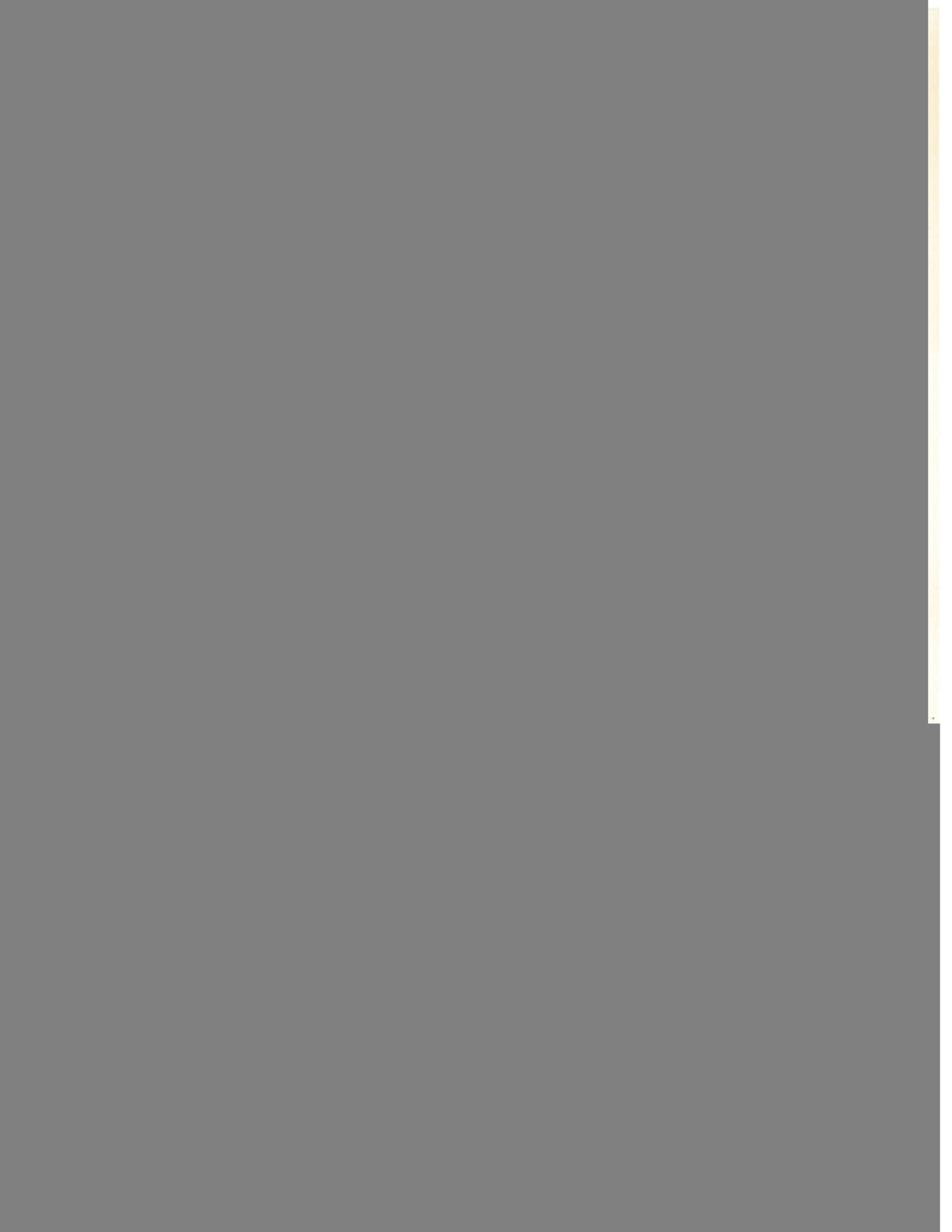
2.309"



2.577"







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FIGURE Auxiliary Vessel Design



The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be clearly documented, including the date, the amount, and the purpose of the transaction. This ensures that the financial statements are reliable and can be audited if necessary.

The second part of the document provides a detailed breakdown of the company's income and expenses for the year. It includes a list of all revenue sources and a corresponding list of all expenses, categorized by department or project. This allows for a clear comparison of income against costs and helps in identifying areas where expenses can be reduced.

The third part of the document discusses the company's financial position at the end of the year. It includes a balance sheet showing assets, liabilities, and equity. This provides a snapshot of the company's overall financial health and is a key indicator for investors and creditors.

Finally, the document concludes with a summary of the company's performance and a set of recommendations for the future. It suggests ways to improve efficiency, reduce costs, and increase revenue, based on the data presented in the financial statements.

1875

1876

1877

1878

1879

10,000

1,000

100

10

1.0

0.01

Total Cross Section (Barns)

100,000

10,000

1,000

100

10

1.0

0.1

0.01

0.001

0.0001

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FIGURE 10. Schematic of Counting System

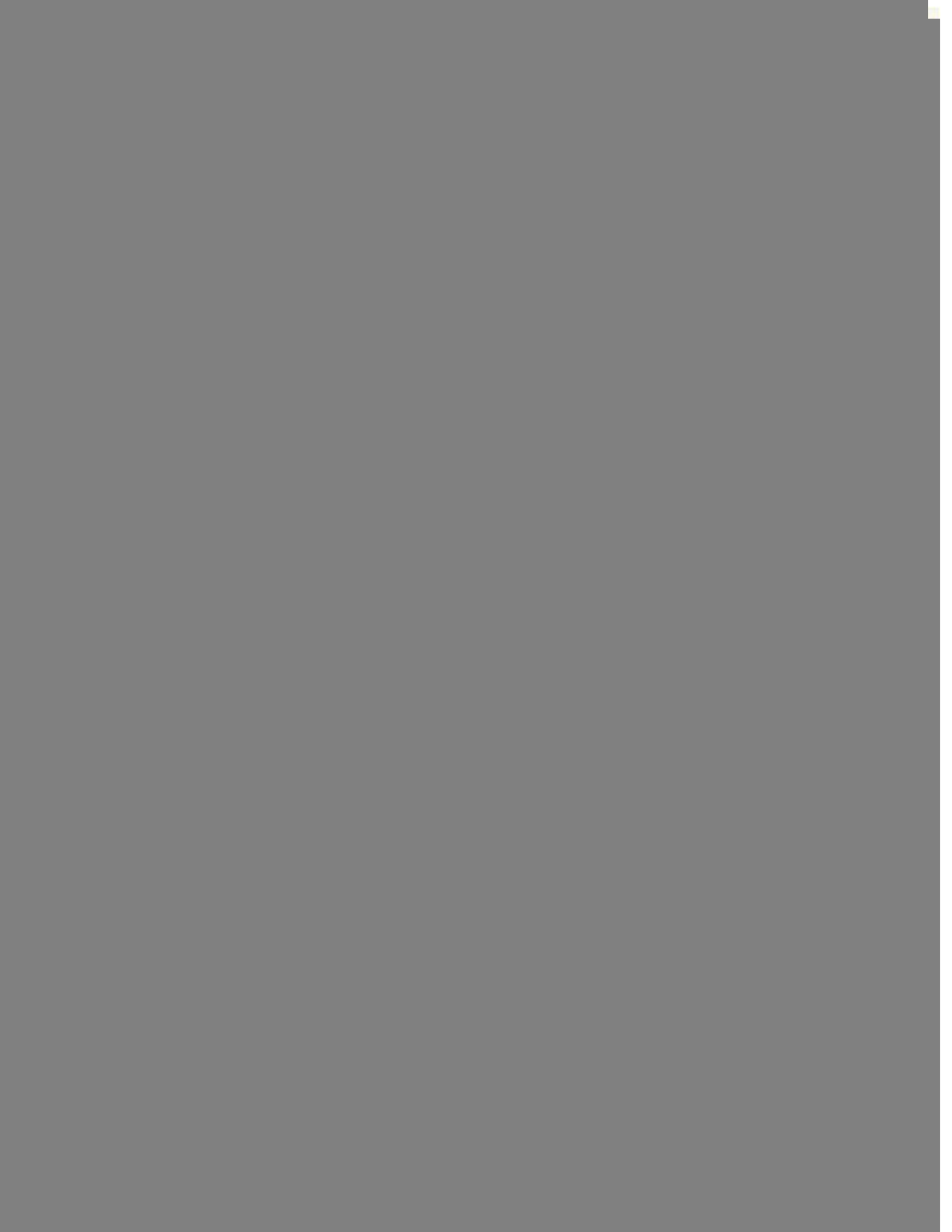
190



Figure 1: A 3D coordinate system with x, y, and z axes.

7
8
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12



Thermal Flux (neutrons - $\text{cm}^{-2} \text{sec}^{-1}$)

FIGURE 12. Thermal Flux Distribution Obtained from ANISN and
DOT Code Calculations

Cr-55	0.00024	0.00024	0.00024	0.00024	0.4		
Mn-56	0.082	0.335	0.349	0.349	0.18		
Fe-59	<10 ⁻⁷	<10 ⁻⁵	<10 ⁻⁵	0.000038	3.7		Iron Absorption in Blood
Ni-65	0.000098	0.00039	0.0004	0.0004	0.33		
Cu-64	0.0033	0.03	0.046	0.063	0.44		Copper Metabolism
Cy-66	0.012	0.012	0.012	0.012	0.03		Copper Metabolism
Zn-69	0.0023	0.0045	0.0045	0.0045	0.42hr		Wound Healing
Ga-72	0.0019	0.018	0.028	0.04	2.6		Lymphoid Tumors, Lung & Bone Scanning
	82.8m	0.4		0.0032			
	11.3hr	0.18		0.0003			
	27.hr	3.7		0.079			Brain Scanning
	3.9m	0.33		0.0016			Dynamic Studies
	18.m	0.44		0.0044			
	57.m	0.03		0.0003			
	17.6m	7.5		0.078			Bladder Scanning
	4.42hr	2.6		0.027			Bladder Scanning

Year	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
Population	1,000,000	1,200,000	1,500,000	1,800,000	2,200,000	2,800,000	3,500,000	4,200,000	5,000,000	6,000,000	7,000,000	8,000,000	9,000,000	10,000,000	11,000,000	12,000,000
GDP	100	150	200	300	450	700	1,000	1,500	2,200	3,000	4,000	5,500	7,500	10,000	13,000	17,000
Life Expectancy	40	45	50	55	60	65	70	75	80	85	90	95	98	100	102	105
Urbanization	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%
Industrialization	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Education	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Healthcare	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Environment	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Technology	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Infrastructure	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Government	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Culture	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Religion	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Language	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
History	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Geography	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Climate	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Politics	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Economy	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Society	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Education	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Healthcare	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Environment	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Technology	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Infrastructure	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Government	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Culture	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Religion	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Language	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
History	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Geography	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Climate	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Politics	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Economy	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
Society	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%

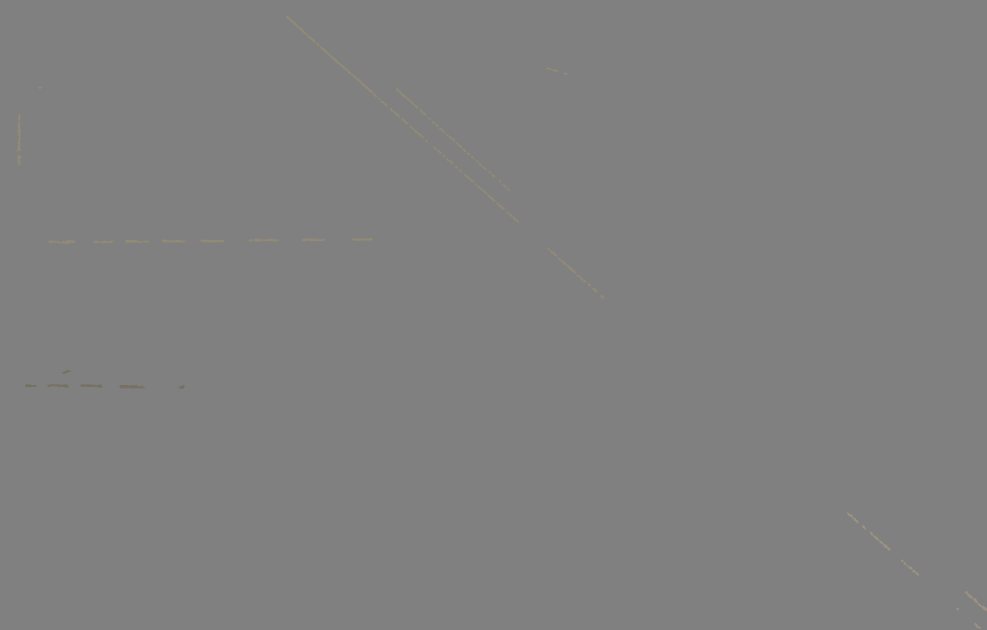
Cd-107	6.5h	0.9	0.00002	0.00012	0.00017
Cd-111	48.6m	0.2	0.00021	0.00036	0.00036
Cd-117	2.5hr	1.3	0.00034	0.00135	0.0014
In-114	71.9sec	1.9	0.0012	0.0012	0.0012
In-116 ^m	54.1m	129.0	0.937	1.75	1.75
Sn-121	26.2hr	0.12	0.000014		0.00053
Sn-123	40.3m	0.14	0.00006		0.00009
Sn-125	9.6m	0.18	0.00013		0.00013
Sb-122	2.74da	6.0	0.00046		0.038
Te-127	9.3hr	0.7	0.00012		0.0017
Te-129	69.m	0.12	0.00023		0.0005
Ie-131	25.m	0.2	0.00015		0.00018
I-128	25.m	4.9	0.050		0.062
Cs-134 ^m	2.9hr		0.00004	0.00017	0.00018
Ba-135 ^m	28.7hr		0.000013	0.00016	0.00057
Ba-137 ^m	2.55m		0.00037	0.00037	0.00037
Ba-139	83.2m		0.00145	0.0037	0.0037

La-140	0.0015	
Ce-137	<10 ⁻⁵	
Ce-141	<10 ⁻⁵	
Pr-142	0.037	
Pr-142	0.0035	
Nd-147	<10 ⁻⁵	
Nd-149	0.00066	
Nd-151	0.00144	
Sm-153	0.005	Bone Scanning
Sm-155	0.010	Bone Scanning
Eu-152	0.007	
Eu-152	0.454	
Gd-159	0.00033	
Dy-165	1.328	
Ho-166	0.013	
Er-163	0.000097	
Er-169	0.000014	Bone Scanning
Er-171	0.001	Bone Scanning
Yb-169	0.00013	

4.19da	53.0	0.00095	0.0124	0.1564
1.9hr	4.9	0.0017	0.0056	0.0057
3.7hr	31.0	0.048	0.251	0.2809
6.7da	3,540.0	0.0034	0.042	0.773
5.5hr	57.6	0.0085	0.056	0.072
42.4da	8.9	0.000017	0.00023	0.011
15.9m	0.03	0.00025	0.00026	0.00027
2 hr	30.0	0.0021	0.0218	0.0746
	88.6	0.002	0.025	0.2875
	3.80 ⁽¹²⁾	0.0005	0.0033	0.0044
	8.07 ⁽¹²⁾	0.00095	0.0086	0.0183
	7.1	0.000029	0.00035	0.0119
	1.4	0.0001	0.0011	0.00486
	621.0	0.00075	0.0091	0.481
	115.2	0.024	0.141	0.609
	1.1	0.00002	0.00024	0.003
	70.9	0.005	0.051	0.149
	3.5	0.0015	0.002	0.002
	85.1	0.007	0.084	0.703

Liver Function;
Aerosol Lung
Scanning

23.8hr	115.0	0.00041	0.0007	0.00138	0.00139	Kidney Function
64.1hr	2750.0	0.0004	0.00076	0.028	0.033	Kidney Function
46.6da	3.4	0.00006	0.00012	0.0008	0.003	Kidney Function



* These are theoretical values obtained from Heath (14).

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Saturated Activity Yield Versus Moderator Thickness

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TABLE IX.

MEDICALLY USEFUL RADIOISOTOPES SHOWING PROMISE FOR
PRODUCTION WITH 10 MILLIGRAMS OF CALIFORNIUM-252





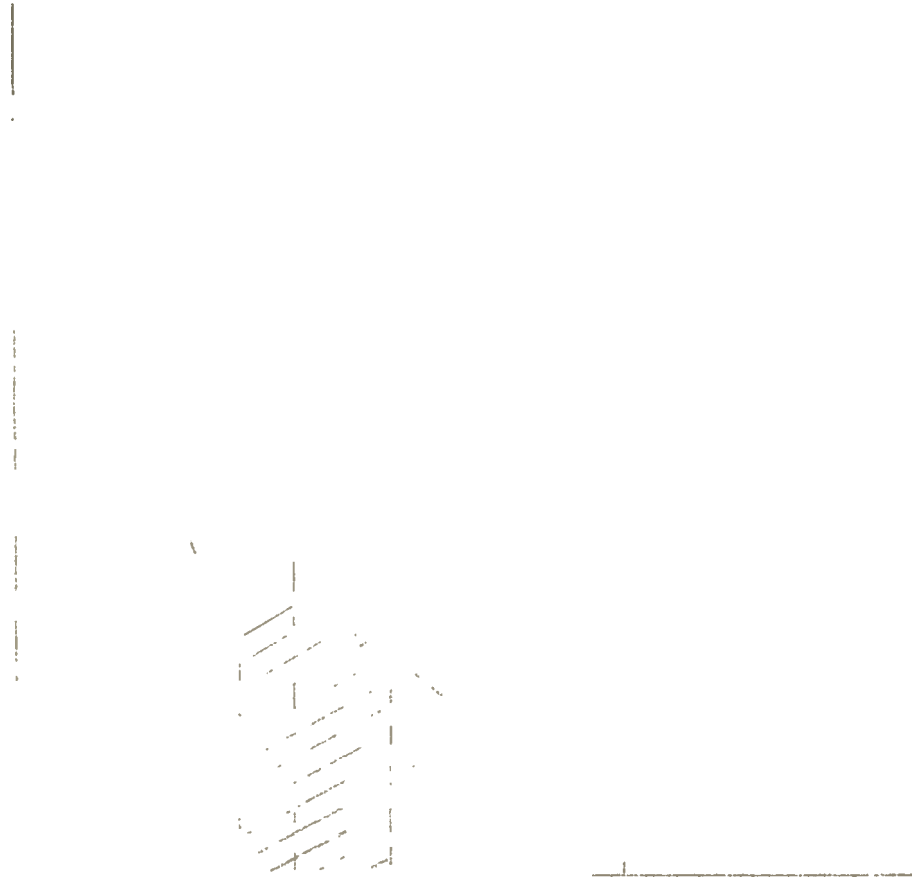


FIGURE 15.



EXAMINATION AND THESIS REPORT

Medical and Industrial

EXAMINING COMMITTEE:

Date of Examination: