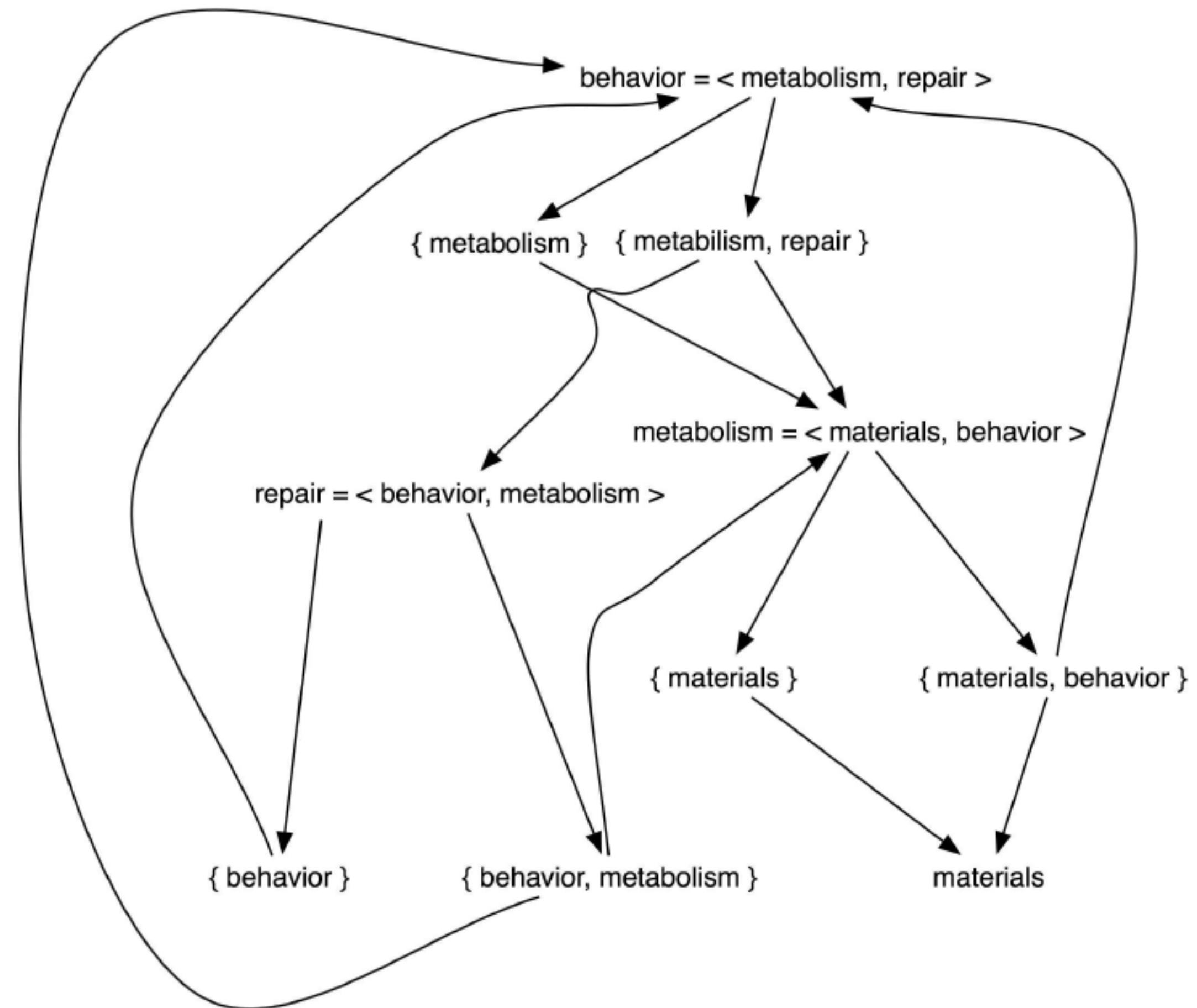


# Hyperset theory + Graph theory = Hyperset Graphs (Impredicative Logic)

Impredicative loop

Hyperset loop

Rosen's definition of  
a living system  
(metabolism-repair-system)



**Fig. 6.** Hyperset diagram of Rosen's metabolism-repair system. Functions are represented as ordered pairs containing their domain and range. So  $f(a) = b$  is represented as  $f = \langle a, b \rangle$ .

# Social networks

Moreno, 1930

*sociogram*

3 “most liked”  
3 “most disliked”

Sex	ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
F	1					+				-	-		+								+	-			
M	2	-								+						+				+			-	-	
F	3						+	-			-		+				+					-			
F	4										-		+	+			+			-	-				
F	5	+									-			+	+					-	-				
F	6	-		+									+			-	+						-		
M	7		+								-	+								-		-		+	
F	8				+		-						+					-		+					-
M	9		+					+					+	-		-									-
M	10		+					-								+			+		-				
M	11		+													+		+		-	-				
F	12	+						-			-					-	+				+				
F	13				+								+				+			-	-	-			
F	14					+	-	+		-											+		-		
M	15							+			-					-				+				+	-
F	16				+						-		+								+		-	-	
M	17				-							+								+	-	-		+	
M	18							-				+										-	+		+
M	19		-									+	-			+					+	-			
F	20						-			-			+		-		+			+					
F	21	-	-		+								+							-	+				
M	22						-			-		+					-	+							+
M	23	-						+				+						-		+		-			
M	24											+						+			-	-	+	-	
	+	2	4	1	4	2	1	4	0	1	0	8	8	3	1	4	6	3	0	7	6	0	2	3	2
	-	4	2	0	1	0	4	4	0	4	9	1	1	1	2	3	1	2	0	7	6	10	4	3	3