Initial set of clauses $S_0$:

1. $P \lor Q \lor R$
2. $P \lor \neg Q \lor \neg R$
3. $P \lor \neg W$
4. $\neg Q \lor \neg R \lor \neg W$
5. $\neg P \lor \neg Q \lor R$
6. $U \lor X$
7. $U \lor \neg X$
8. $Q \lor \neg U$
9. $\neg R \lor \neg U$

Initial valuation $V_0$: All atoms unbound.

Sequence of calls.

I. Call $dp1(ATOMS, S_0, V_0)$
   $\neg W$ is a pure literal. (W never appears) $V_1[W] = FALSE$.
   New set of clauses $S_1$: Delete clauses 3 and 4 (satisfied)
   1. $P \lor Q \lor R$
   2. $P \lor \neg Q \lor \neg R$
   5. $\neg P \lor \neg Q \lor R$
   6. $U \lor X$
   7. $U \lor \neg X$
   8. $Q \lor \neg U$
   9. $\neg R \lor \neg U$

   No pure literals, no singleton clauses.
   Call propagate($P, S_1, V_2$): Delete clauses 1 and 2, delete $\neg P$ from 5
   New set of clauses $S_2$:
   5. $\neg Q \lor R$
   6. $U \lor X$
   7. $U \lor \neg X$
   8. $Q \lor \neg U$
   9. $\neg R \lor \neg U$.

II. Call $dp1(ATOMS, S_2, V_2)$.
   No pure literals, no singleton clauses.
   Call propagate($Q, S_2, V_3$): Delete clause 8, delete $\neg Q$ from 5
   New set of clauses $S_3$:
   5. $R$
   6. $U \lor X$
   7. $U \lor \neg X$
   9. $\neg R \lor \neg U$.

III. Call $dp1(ATOMS, S_3, V_3)$.
   5 is a singleton clause with literal R;
   $V[R] = TRUE$.
Call propagate(R,S3,V4): Delete clause 5, delete ¬R from clause 9.
New set of clauses S4:
   6. U ∨ X
   7. U ∨ ¬X
   9. ¬U.

9 is a singleton clause with literal ¬U;
V[U] = FALSE;
Call propagate(U,S4,V5): Delete clause 9, delete U from clauses 6 and 7.
New set of clauses S5:
   6. X
   7. ¬X

6 is a singleton clause with literal X;
V[X] = TRUE;
V6 is the valuation V6[P]=TRUE, V6[Q]=TRUE, V6[R]=TRUE,
Call propagate(X,S5,V6): Delete clause 6, delete ¬X from clause 7.
New set of clauses S6:
   7. empty

7 is the empty clause.
III returns NIL to II.

II continuing.
Try V[Q] := FALSE; V7 is the valuation V7[P] = TRUE, V7[Q] = FALSE, V7[W] = FALSE.
Call propagate(Q,S2,V7): Delete clause 5, delete Q from 8
New set of clauses S7:
   6. U ∨ X
   7. U ∨ ¬X
   8. ¬U
   9. ¬R ∨ ¬U.

IV. Call dp1(ATOMS, S7, V7).
8 is a singleton clause with literal ¬U;
V[U] = TRUE;
Call propagate(U,S7,V8): Delete clauses 8 and 9, delete U from clauses 6 and 7.
New set of clauses S9:
   6. X
   7. ¬X

6 is a singleton clause with literal X;
V[X] = TRUE;
   V9[X] = TRUE, V9[W]=FALSE.
Call propagate(X,S8,V9): Delete clause 6, delete ¬X from clause 7.
New set of clauses S9:
   7. empty
7 is the empty clause.
IV returns NIL to II.

II having failed with both TRUE and FALSE for Q, returns NIL to I.

I continuing
Try $V[P] := \text{FALSE}$; $V_{10}$ is the valuation $V_{10}[P] = \text{FALSE}$, $V_{10}[W] = \text{FALSE}$.
Call propagate(P,S$_{1}$,V$_{10}$): Delete clause 5, delete P from 1 and 2
New set of clauses S$_{10}$:
1. $Q \lor R$
2. $\neg Q \lor \neg R$
6. $U \lor X$
7. $U \lor \neg X$
8. $Q \lor \neg U$
9. $\neg R \lor \neg U$.

V. Call dp1(ATOMS, S$_{10}$, V$_{10}$).
No pure literals, no singleton clauses.
Try $V[Q] := \text{TRUE}$; $V_{11}$ is the valuation $V_{11}[P] = \text{FALSE}$, $V_{11}[Q] = \text{TRUE}$, $V_{11}[W] = \text{FALSE}$.
Call propagate(Q,S$_{10}$,V$_{11}$): Delete clauses 1 and 8, delete $\neg Q$ from 2
New set of clauses S$_{11}$:
2. $\neg R$
6. $U \lor X$
7. $U \lor \neg X$
9. $\neg R \lor \neg U$.

VI. Call dp1(ATOMS, S$_{11}$, V$_{11}$).
$\neg R$ is a pure literal.
$V[R] := \text{FALSE}$; $V_{12}$ is the valuation $V_{12}[P] = \text{FALSE}$, $V_{12}[Q] = \text{TRUE}$, $V_{12}[R] = \text{FALSE}$, $V_{12}[W] = \text{FALSE}$.
Delete clauses 2 and 9.
New set of clauses S$_{12}$:
6. $U \lor X$
7. $U \lor \neg X$
$U$ is a pure literal.
$V[U] := \text{TRUE}$; $V_{13}$ is the valuation $V_{13}[P] = \text{FALSE}$, $V_{13}[Q] = \text{TRUE}$, $V_{13}[R] = \text{FALSE}$, $V_{13}[U] = \text{TRUE}$, $V_{13}[W] = \text{FALSE}$.
Delete clauses 6 and 7.
S$_{13}$ is the empty set of clauses.
Set the value of atom X to be either TRUE or FALSE.
Return V$_{13}$ to the top level.