



# PICASSO'S CUBOID PUZZLE

Pablo Picasso's  
Les Femmes d'Alger, 1935

3x3x2

20

2x1x1

20 can be written as the sum of the volumes of two cuboids... a Greedy one and a Generous one.

All three dimensions of the Greedy Cuboid {3,3,2} are at least as big as the three dimensions of the Generous Cuboid {2,1,1}. This must always be true.

How small can you make the Greedy Cuboid? To find the answer look on page 20.

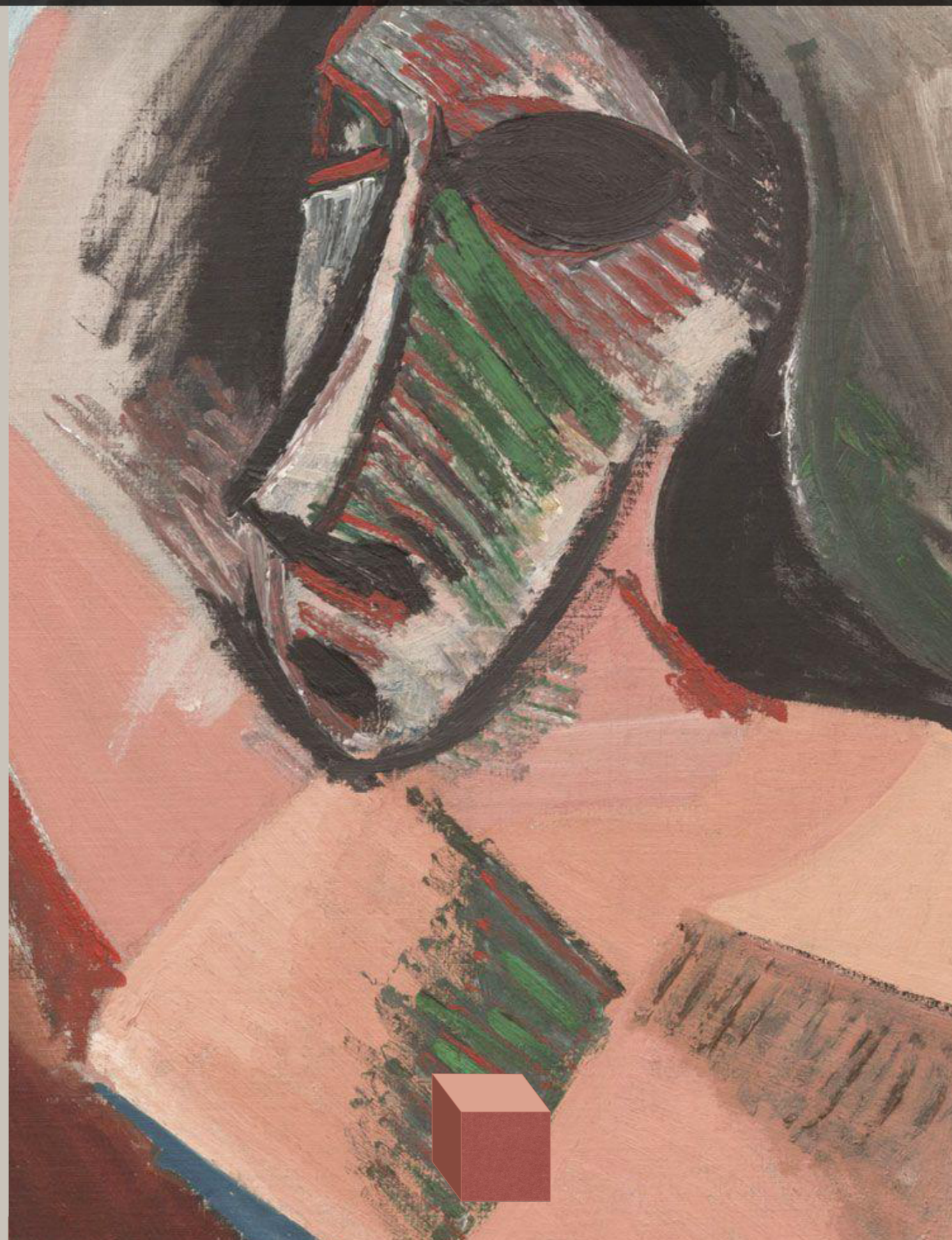
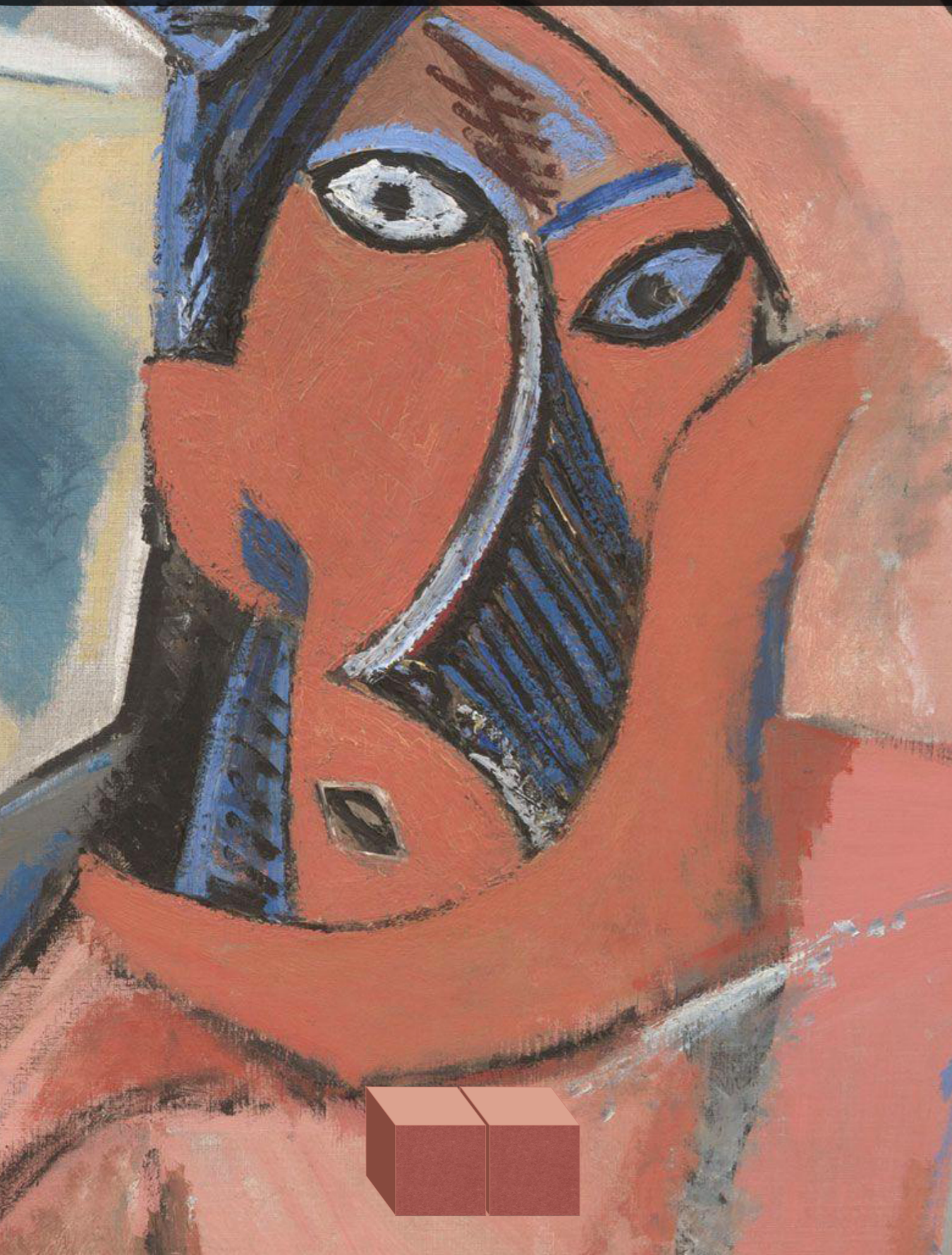
Experiment with numbers greater than 20.



2x1x1

3

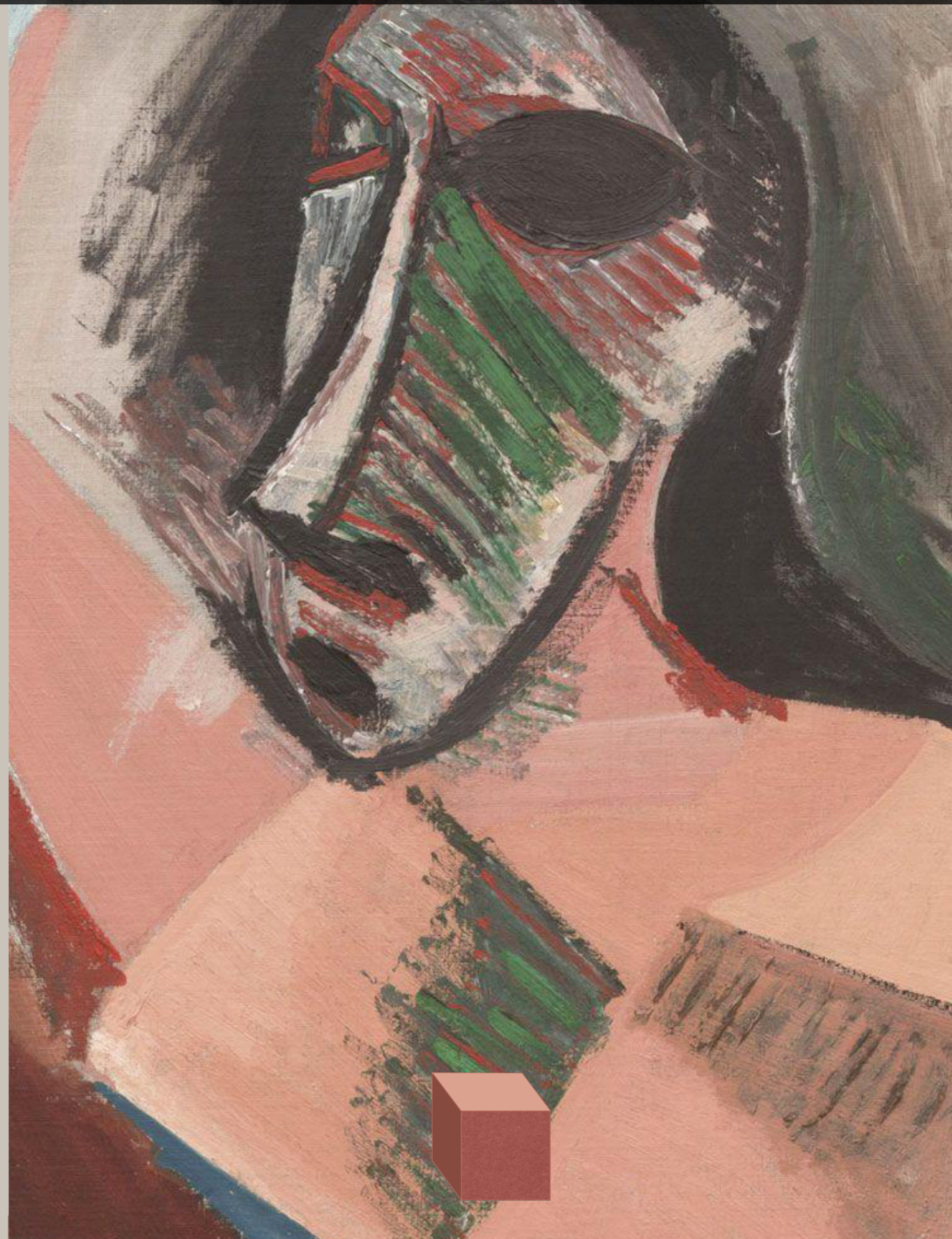
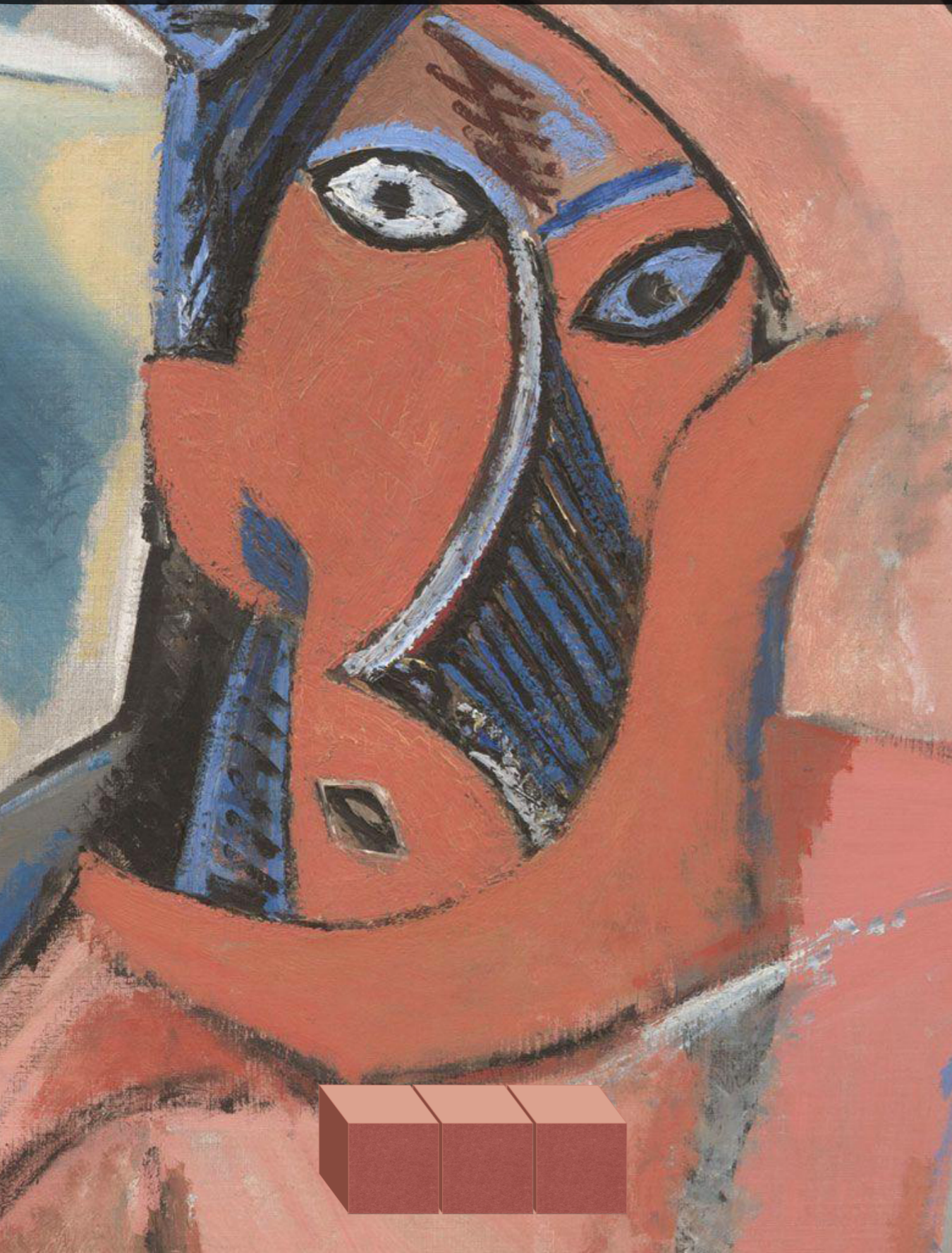
1x1x1



3x1x1

4

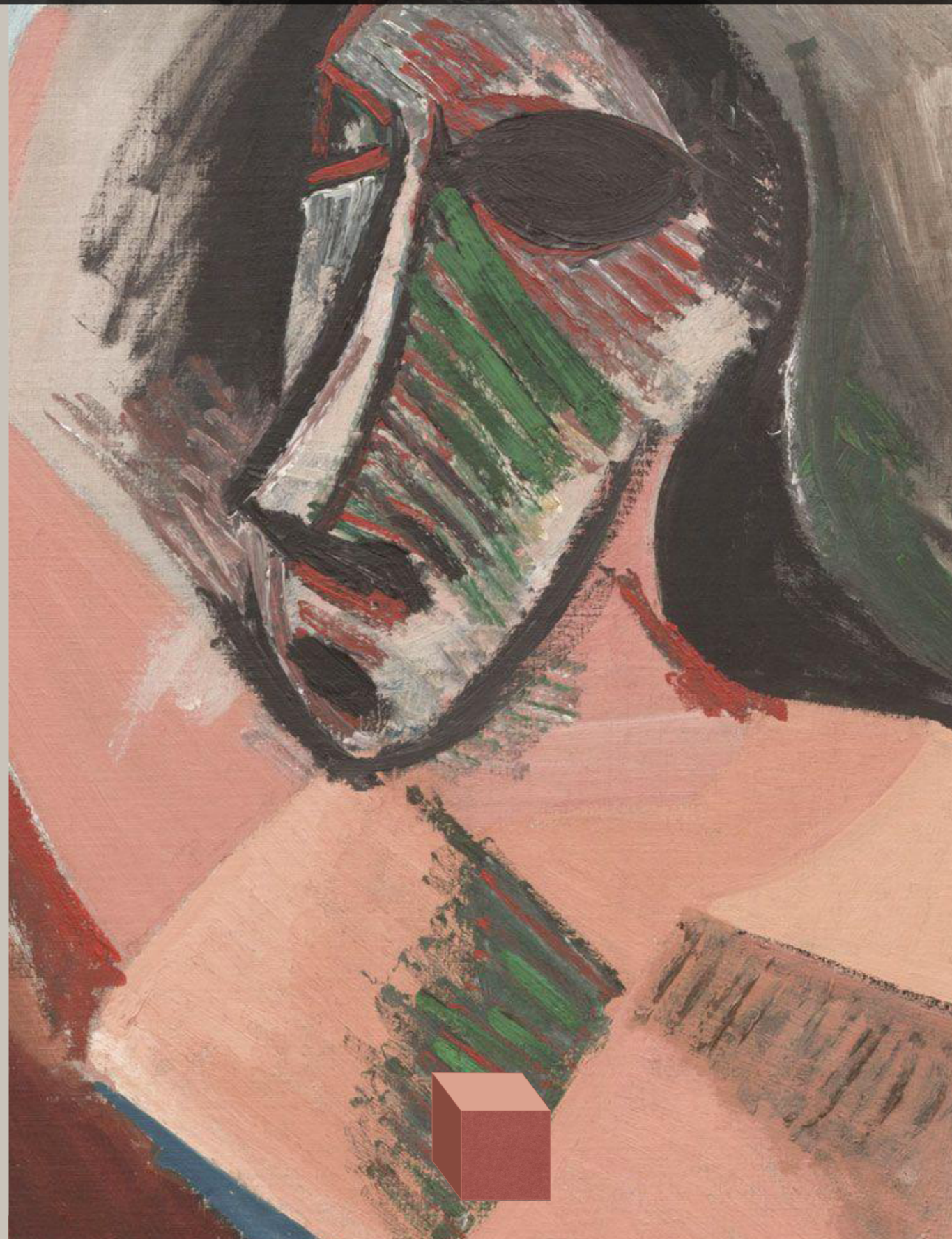
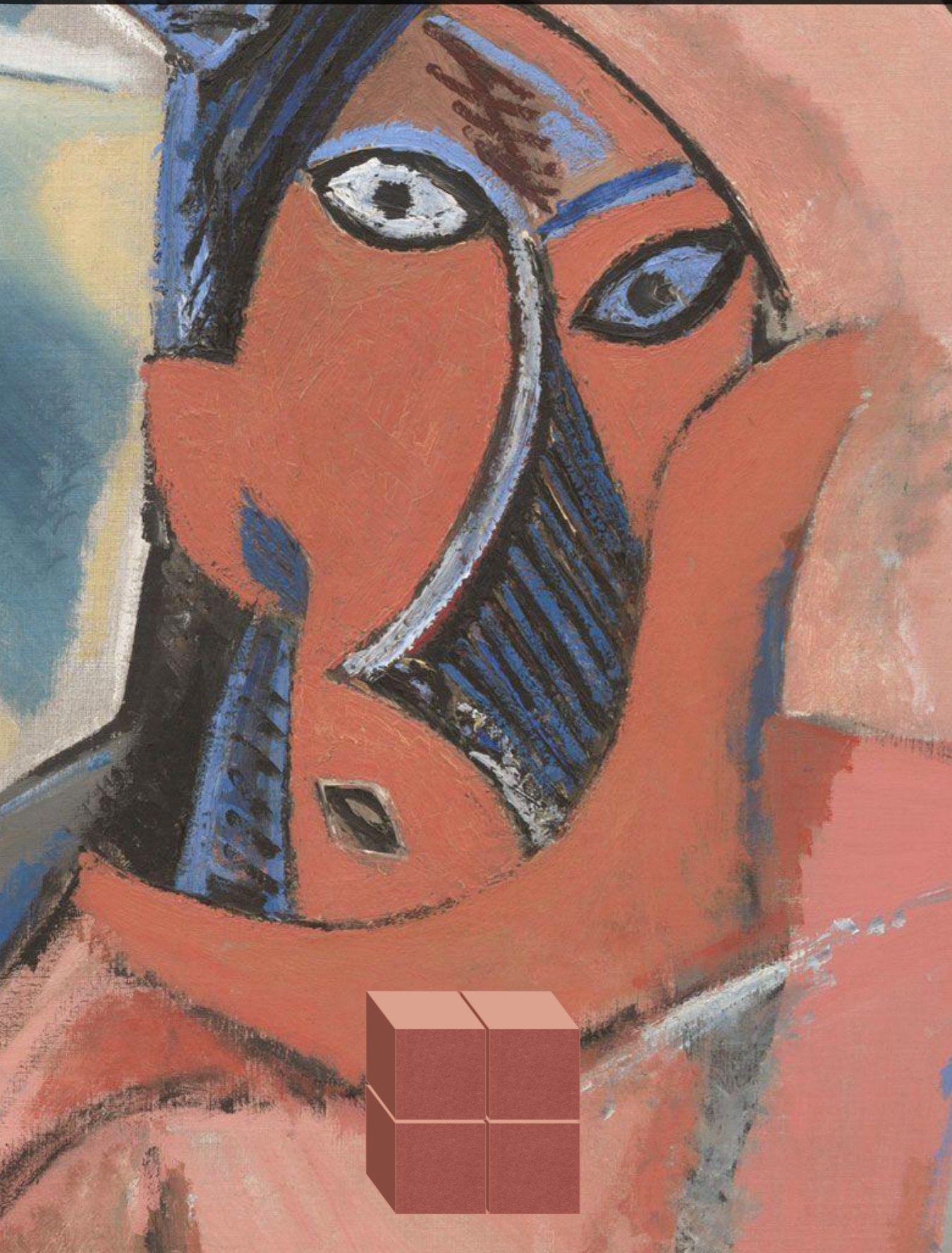
1x1x1



2x2x1

5

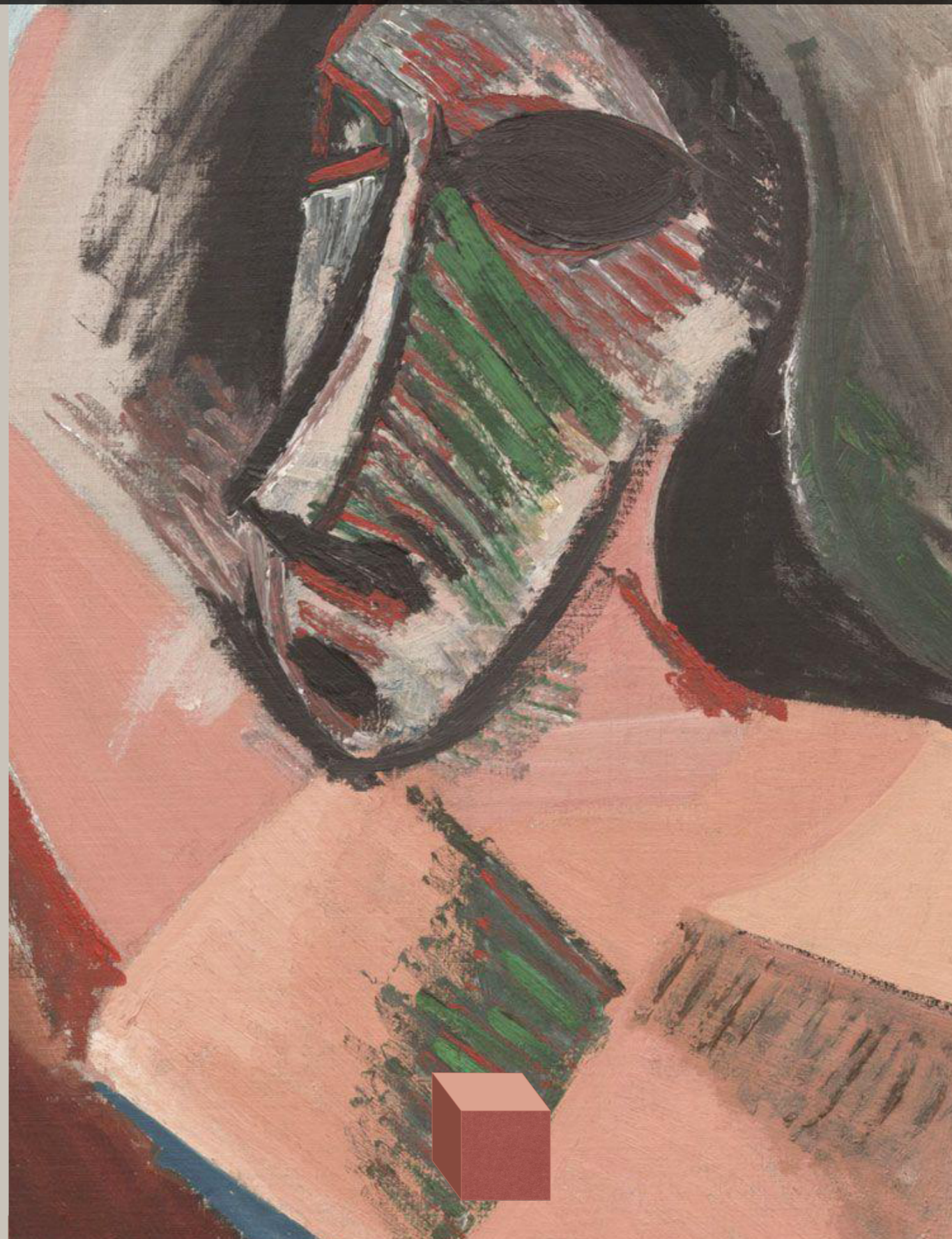
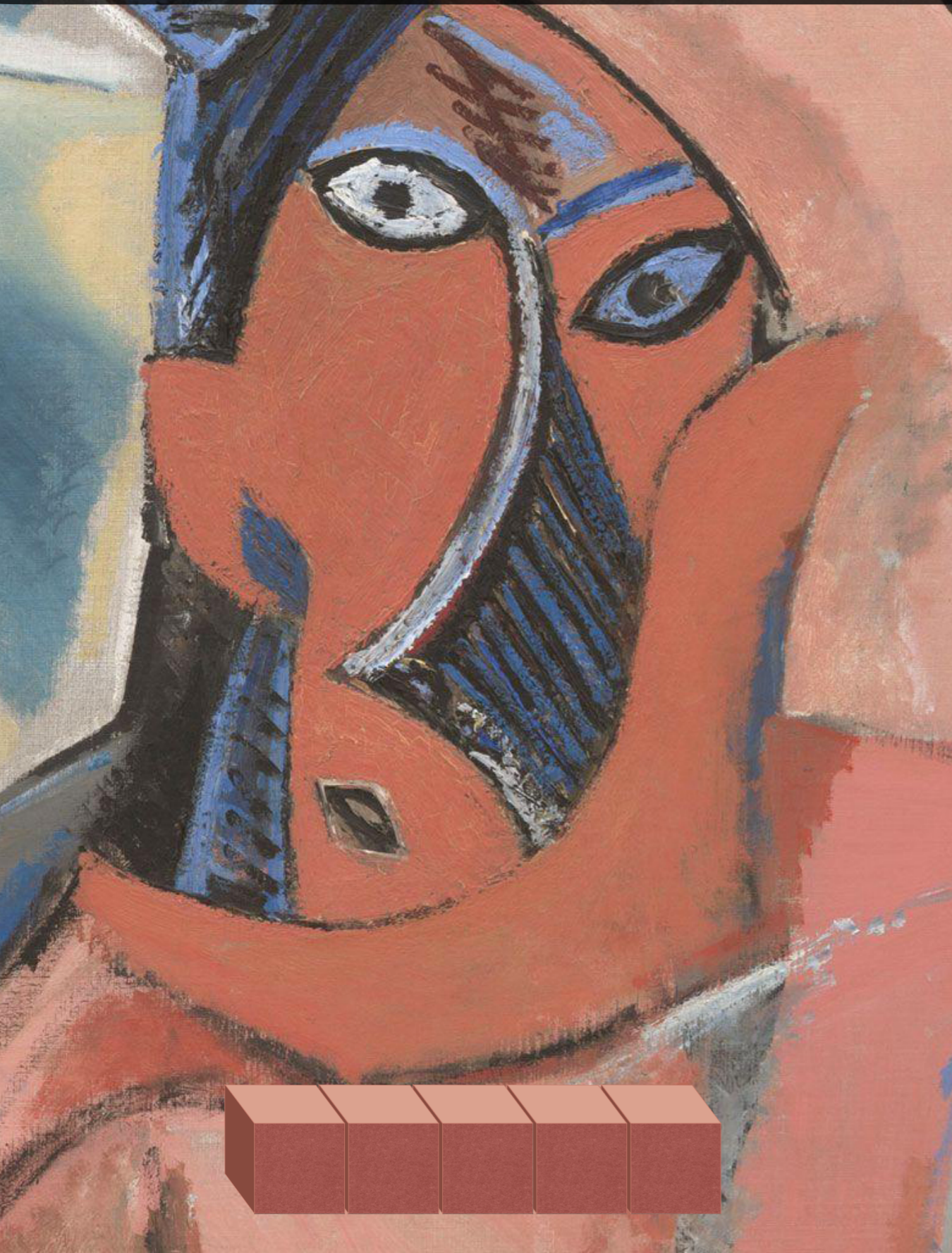
1x1x1



5x1x1

6

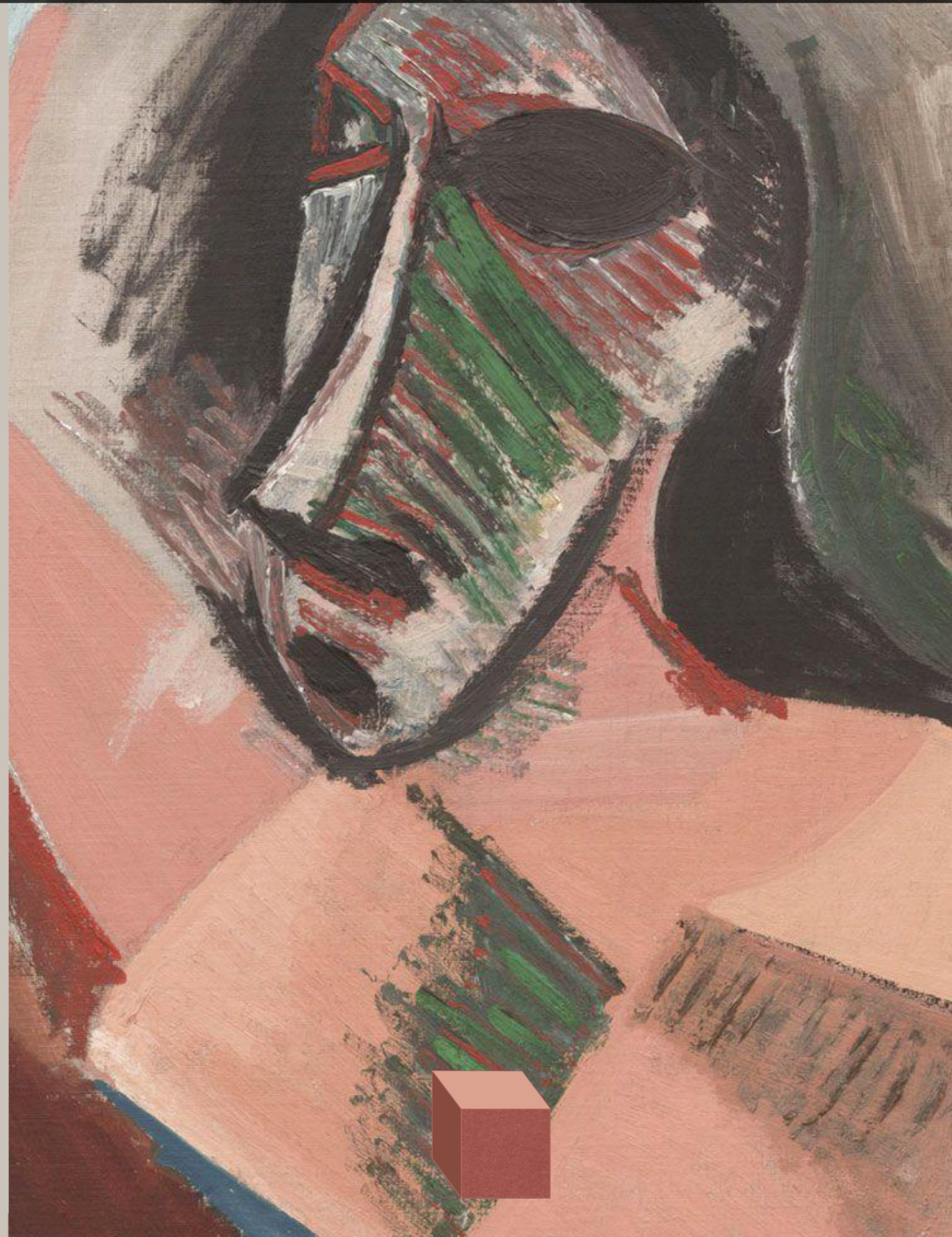
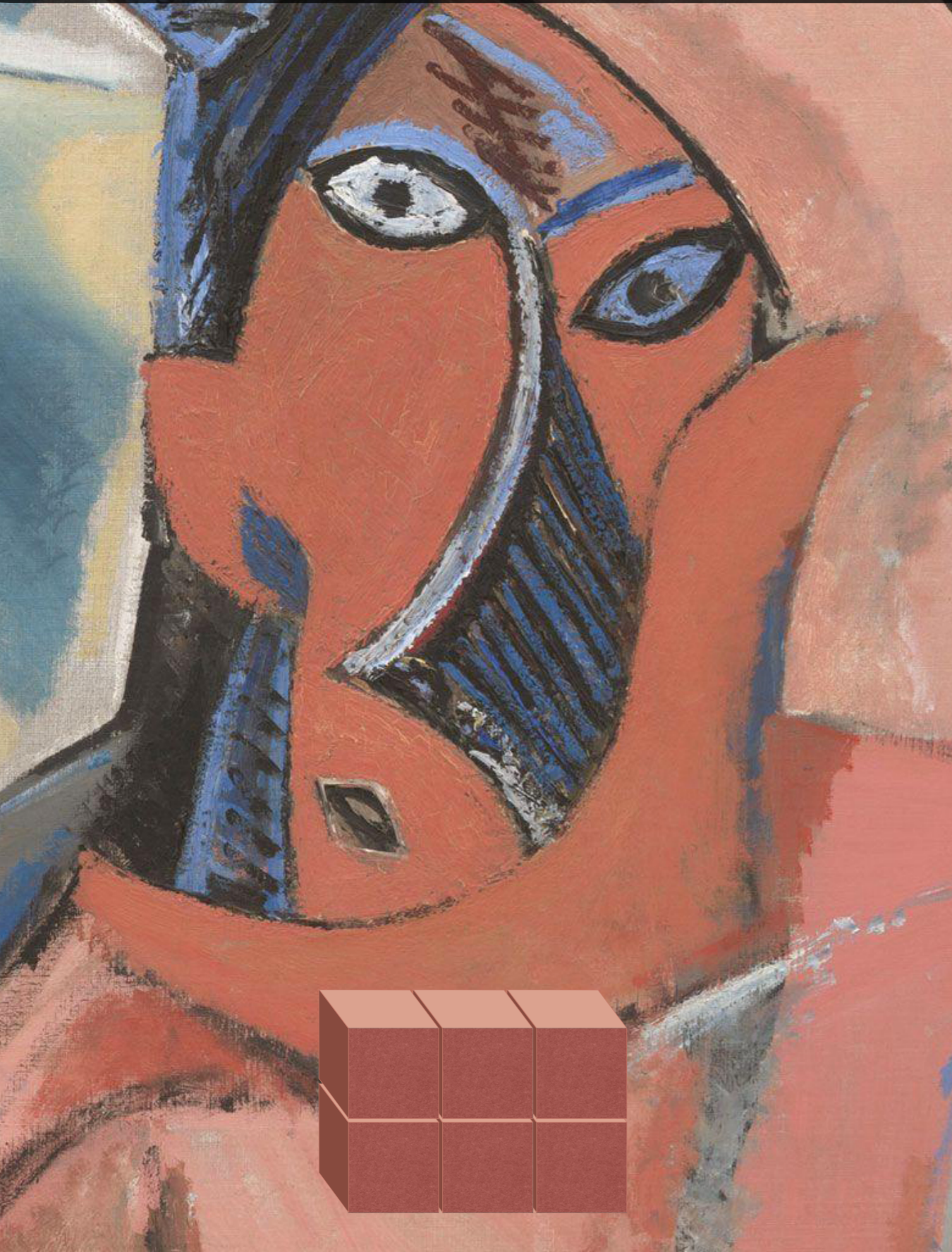
1x1x1



3x2x1

7

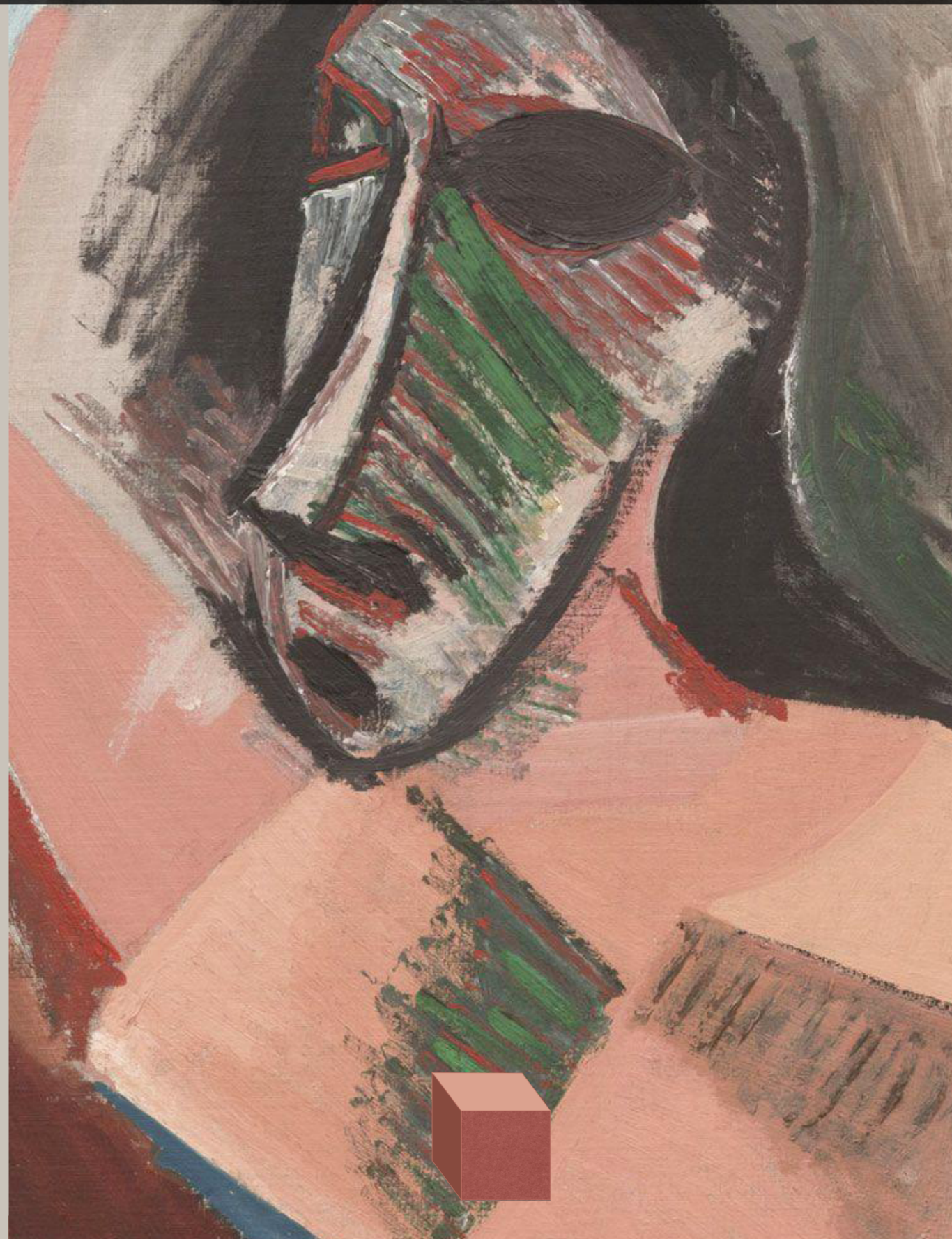
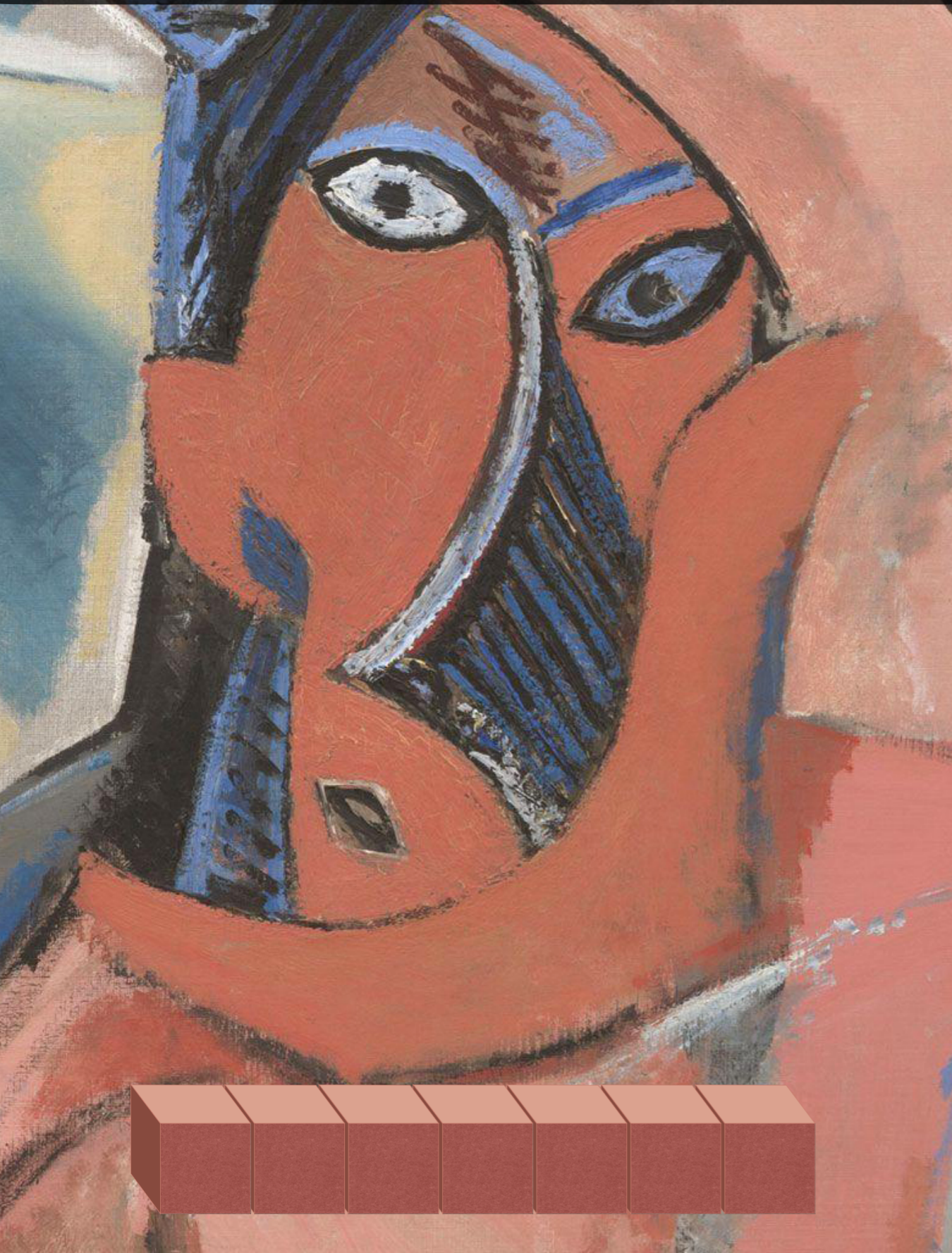
1x1x1



7x1x1

8

1x1x1

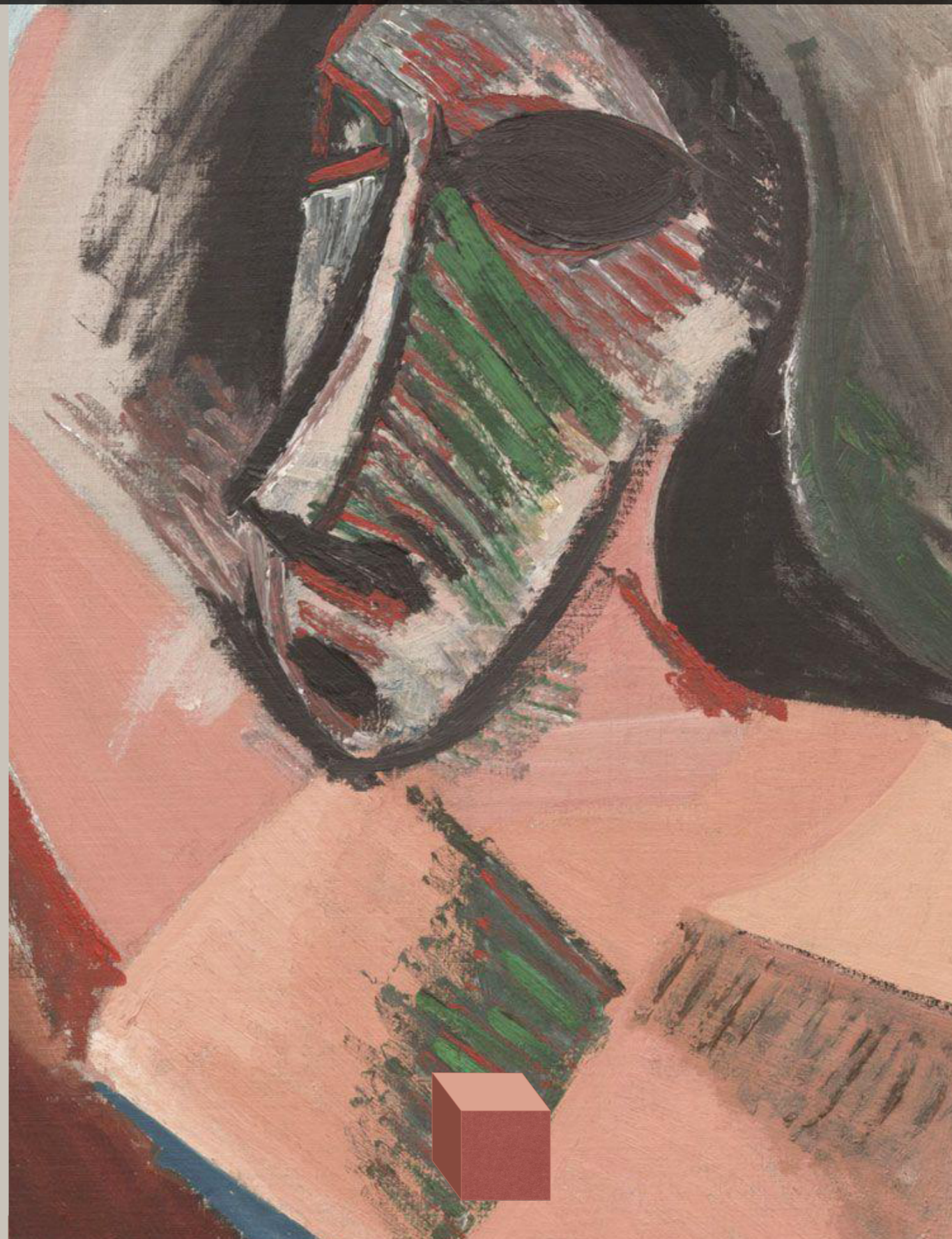
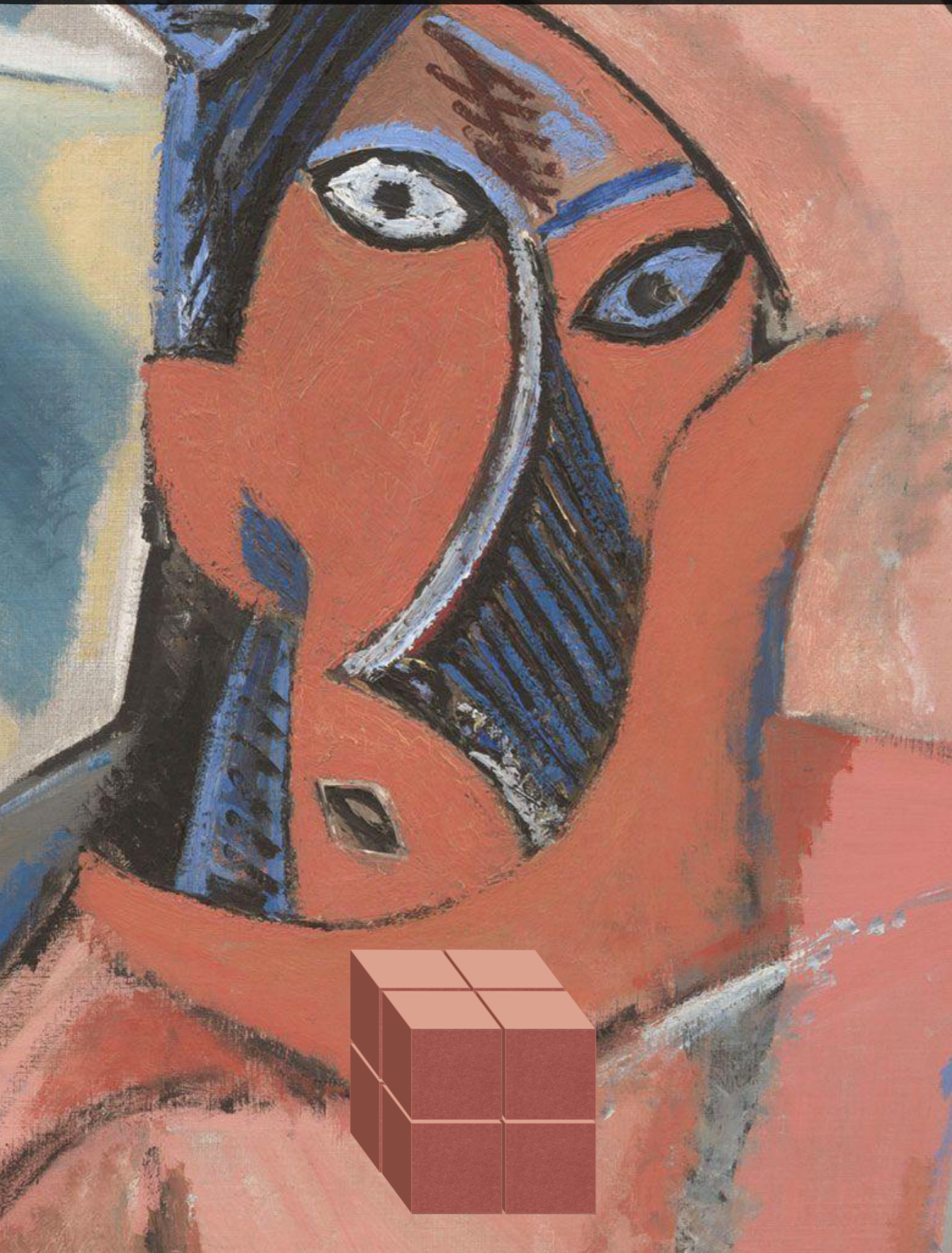




2x2x2

9

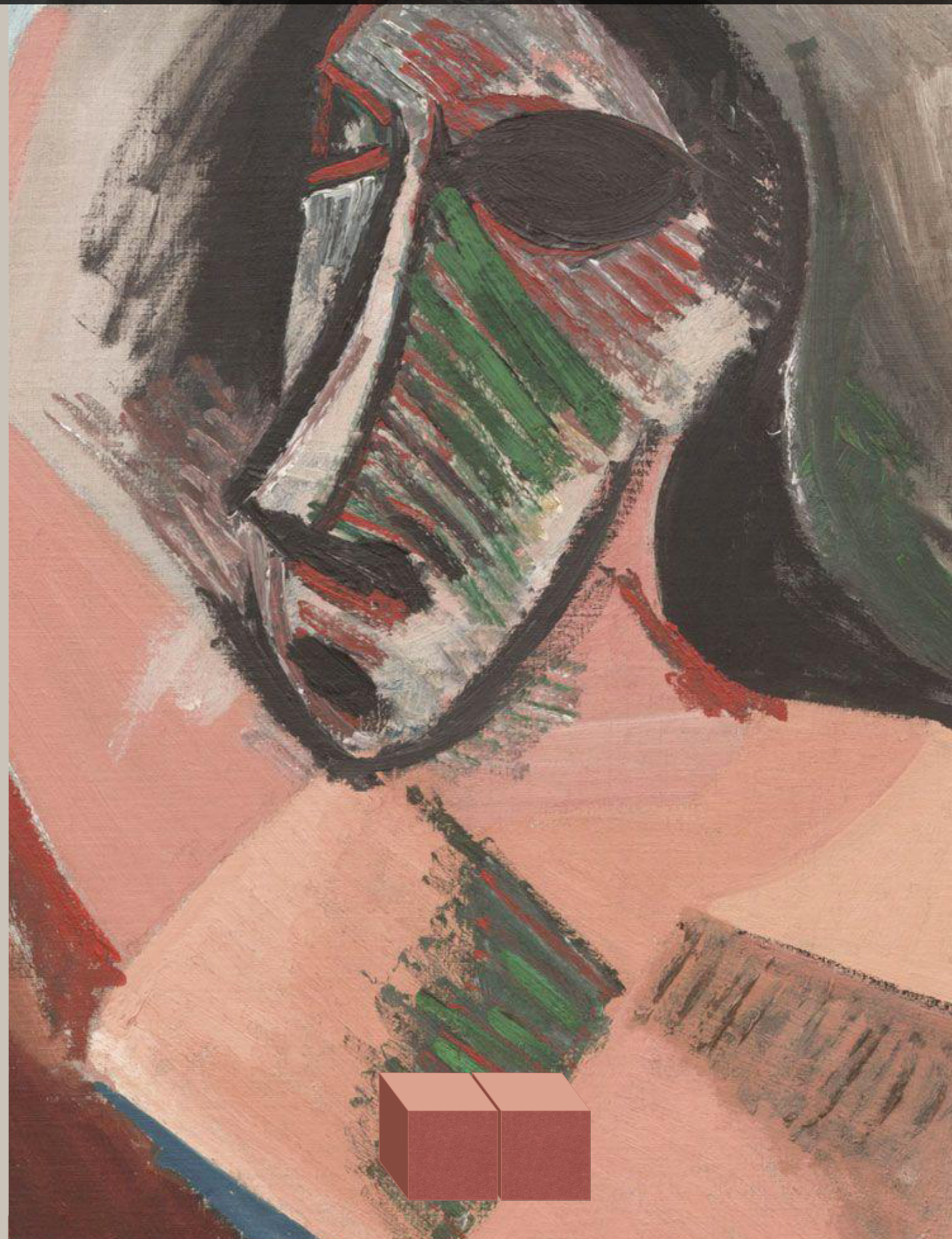
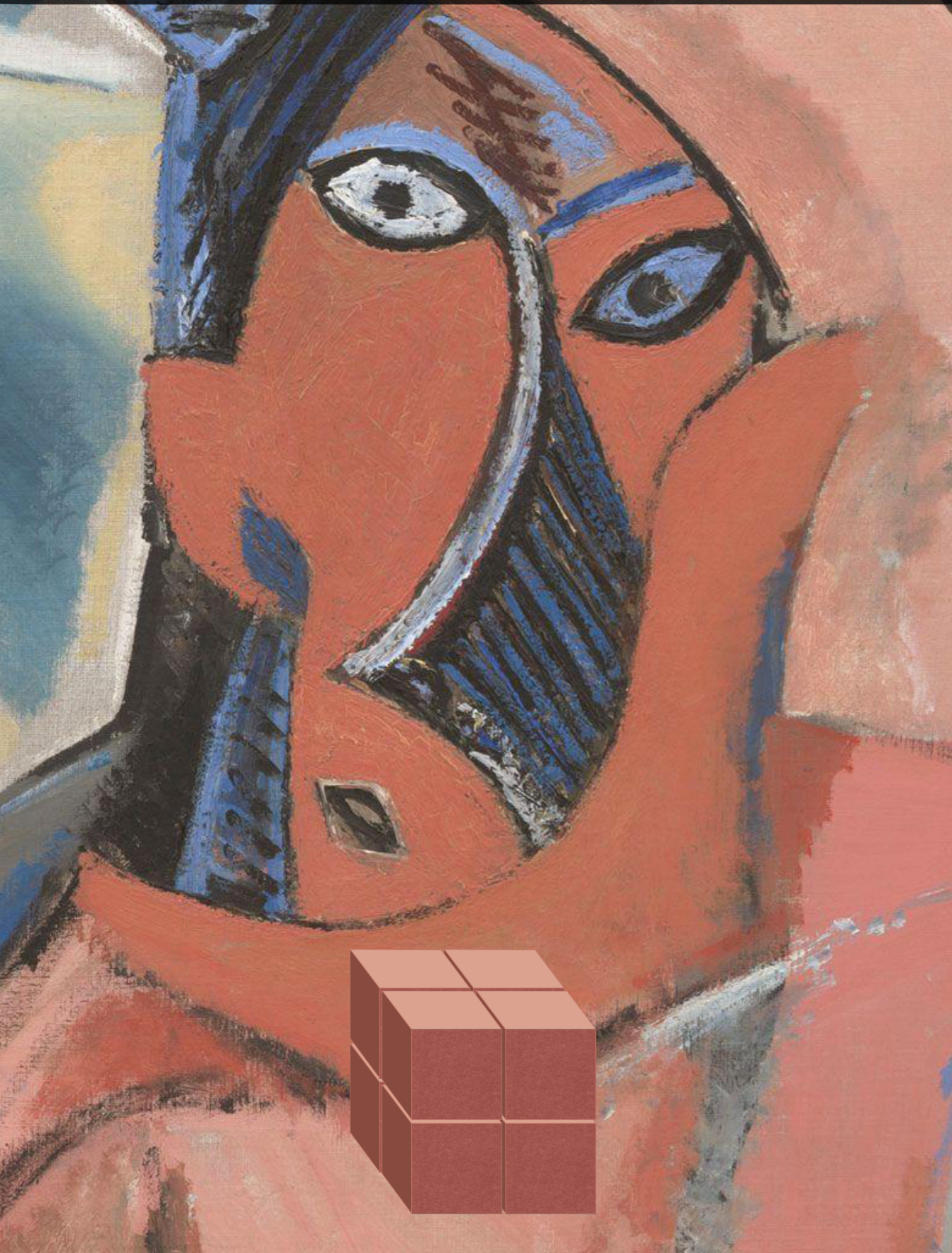
1x1x1



2x2x2

10

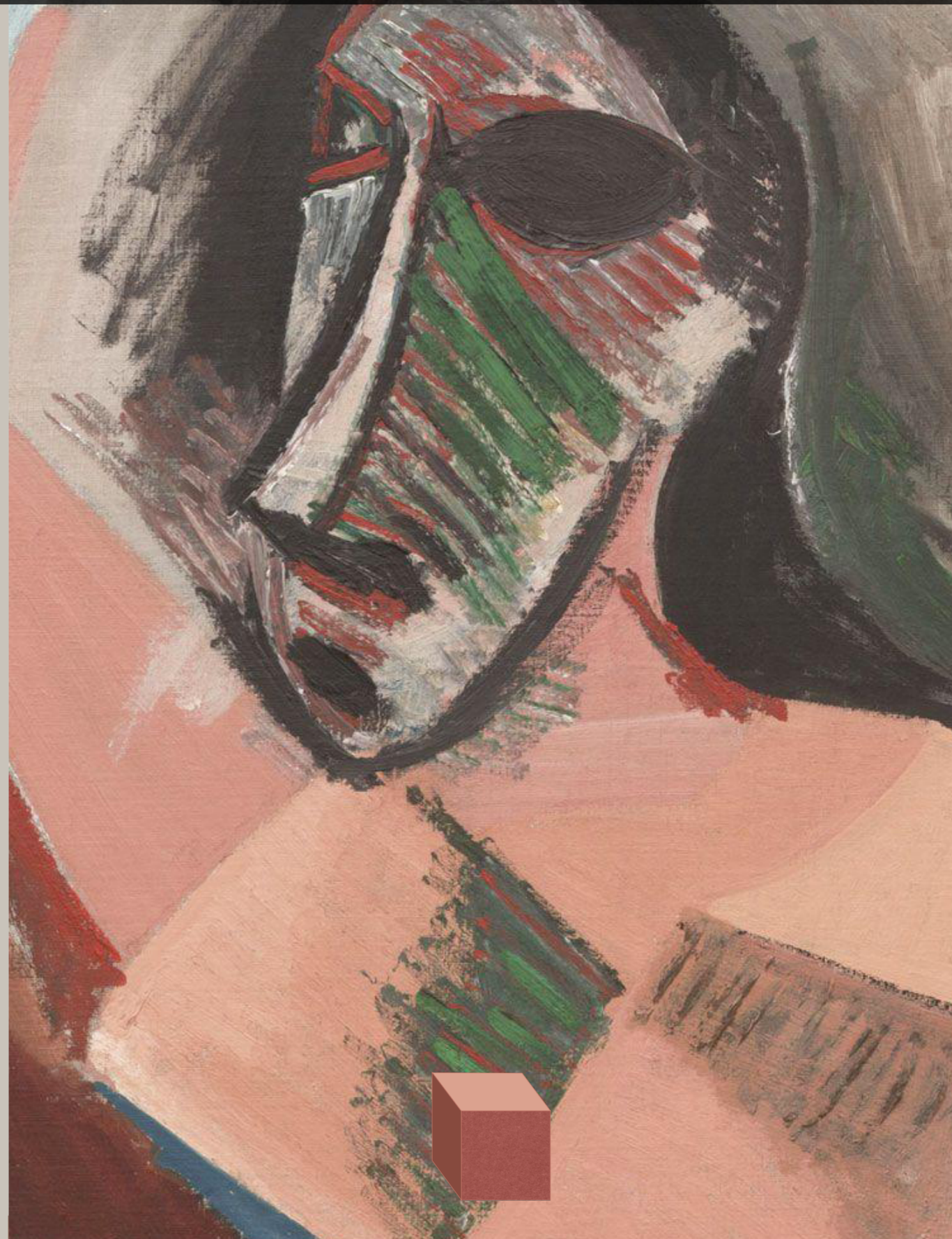
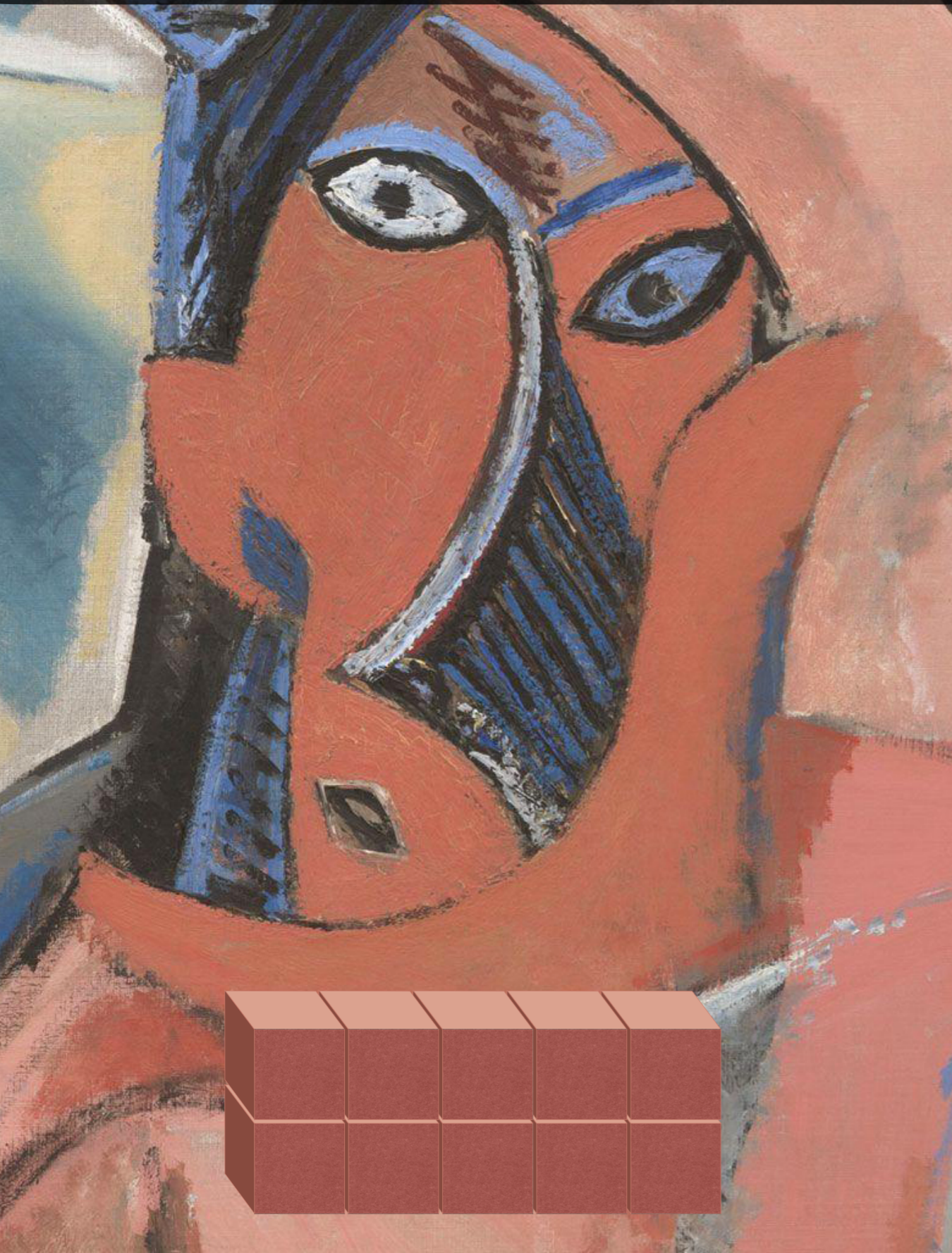
2x1x1



5x2x1

1 1

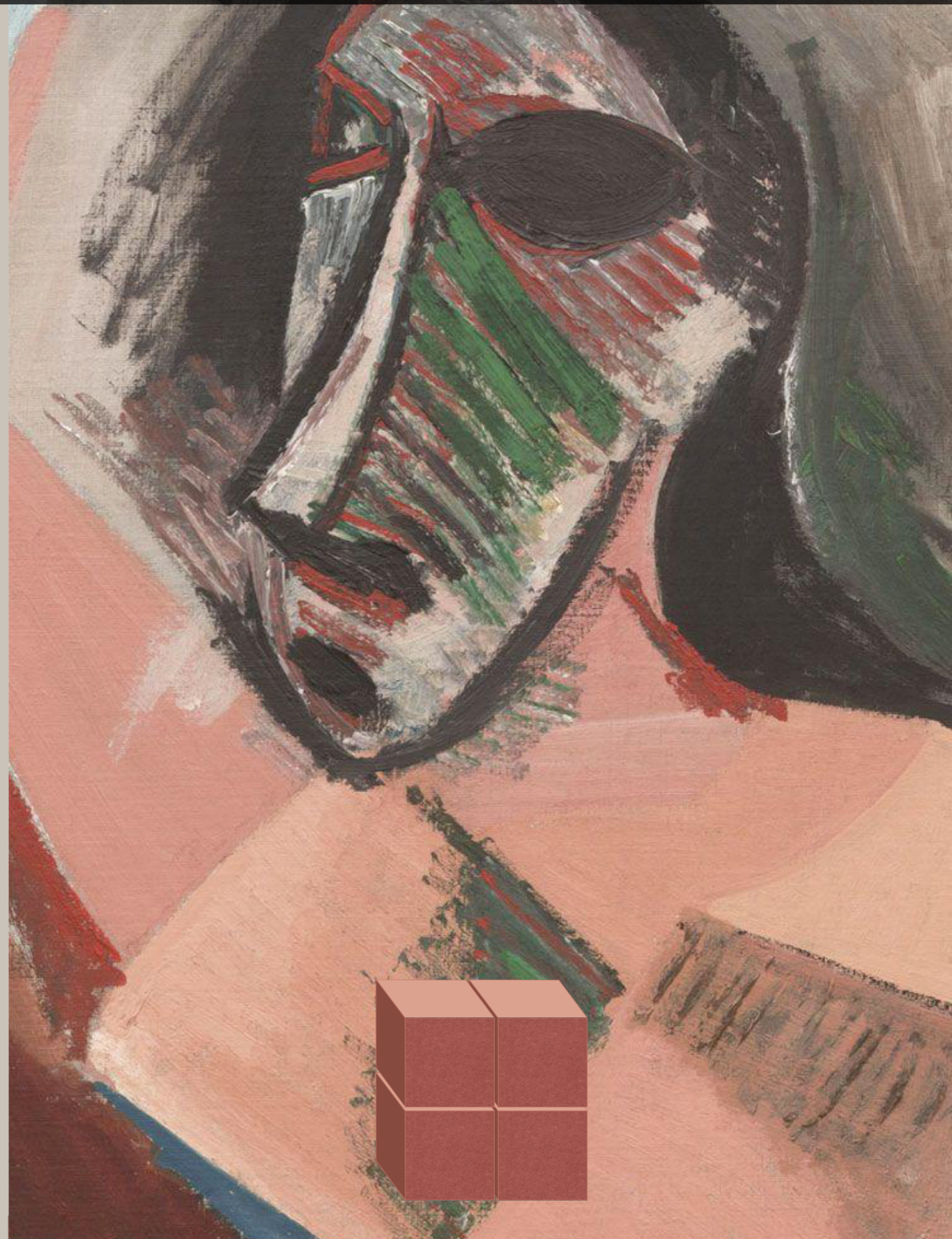
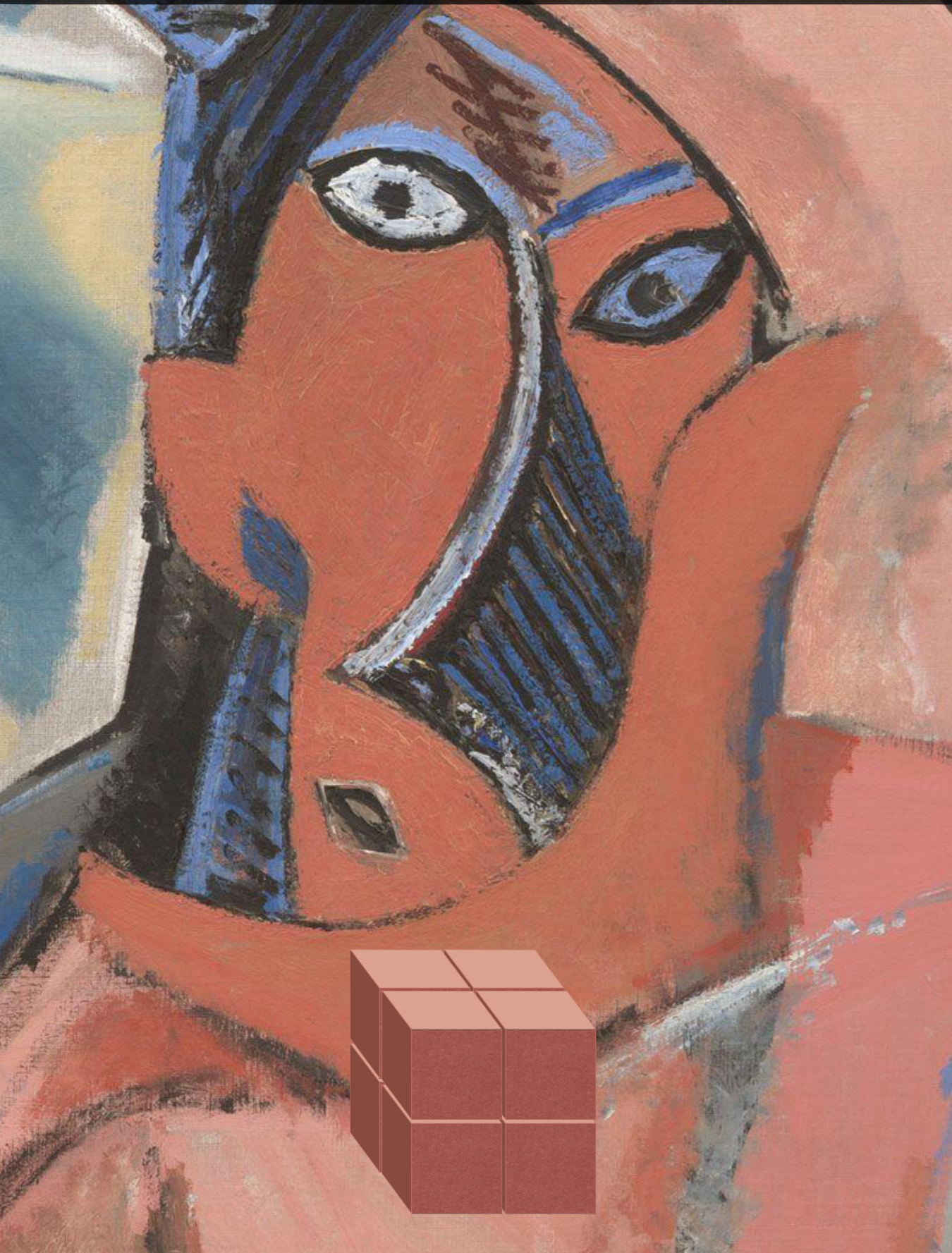
1x1x1



2x2x2

12

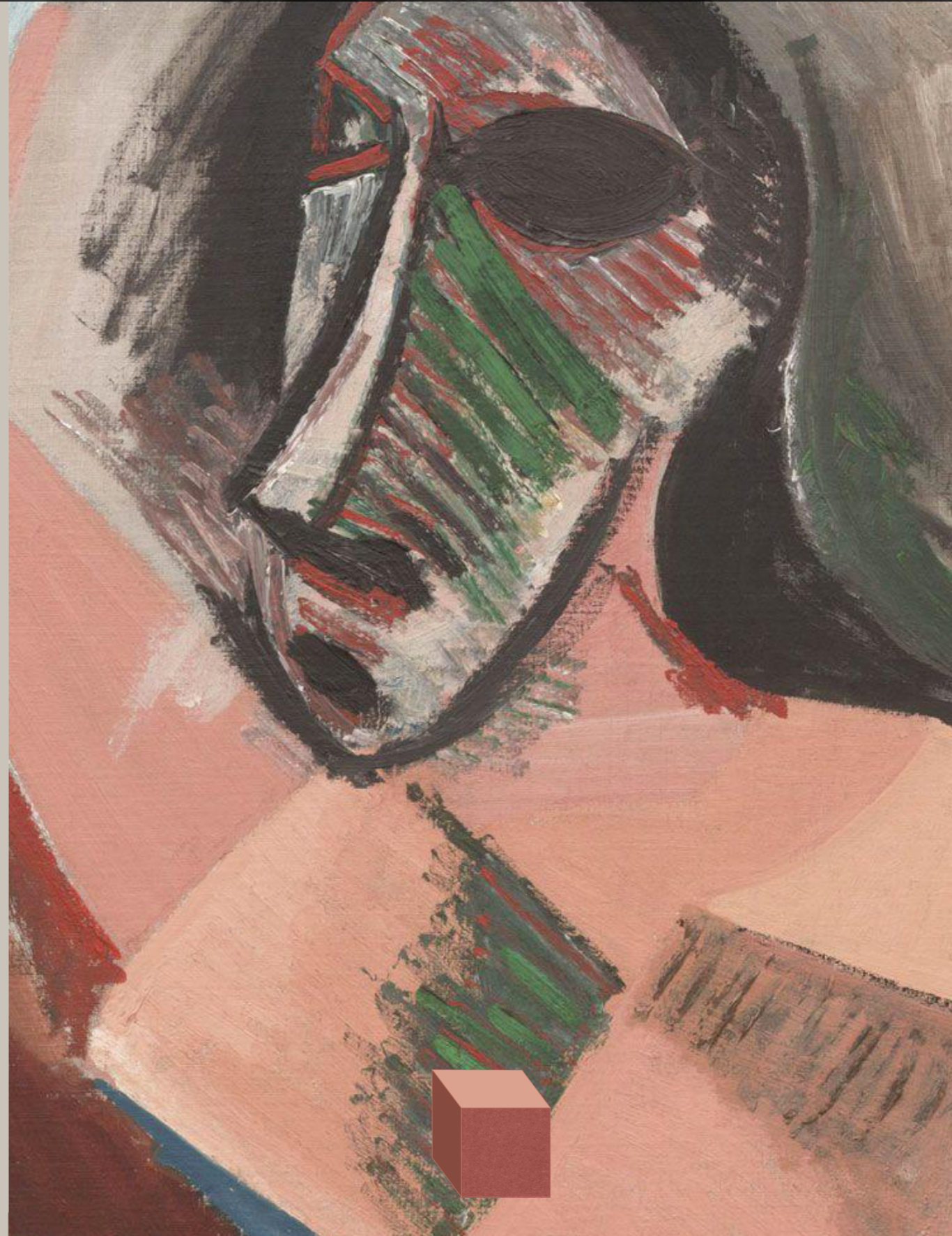
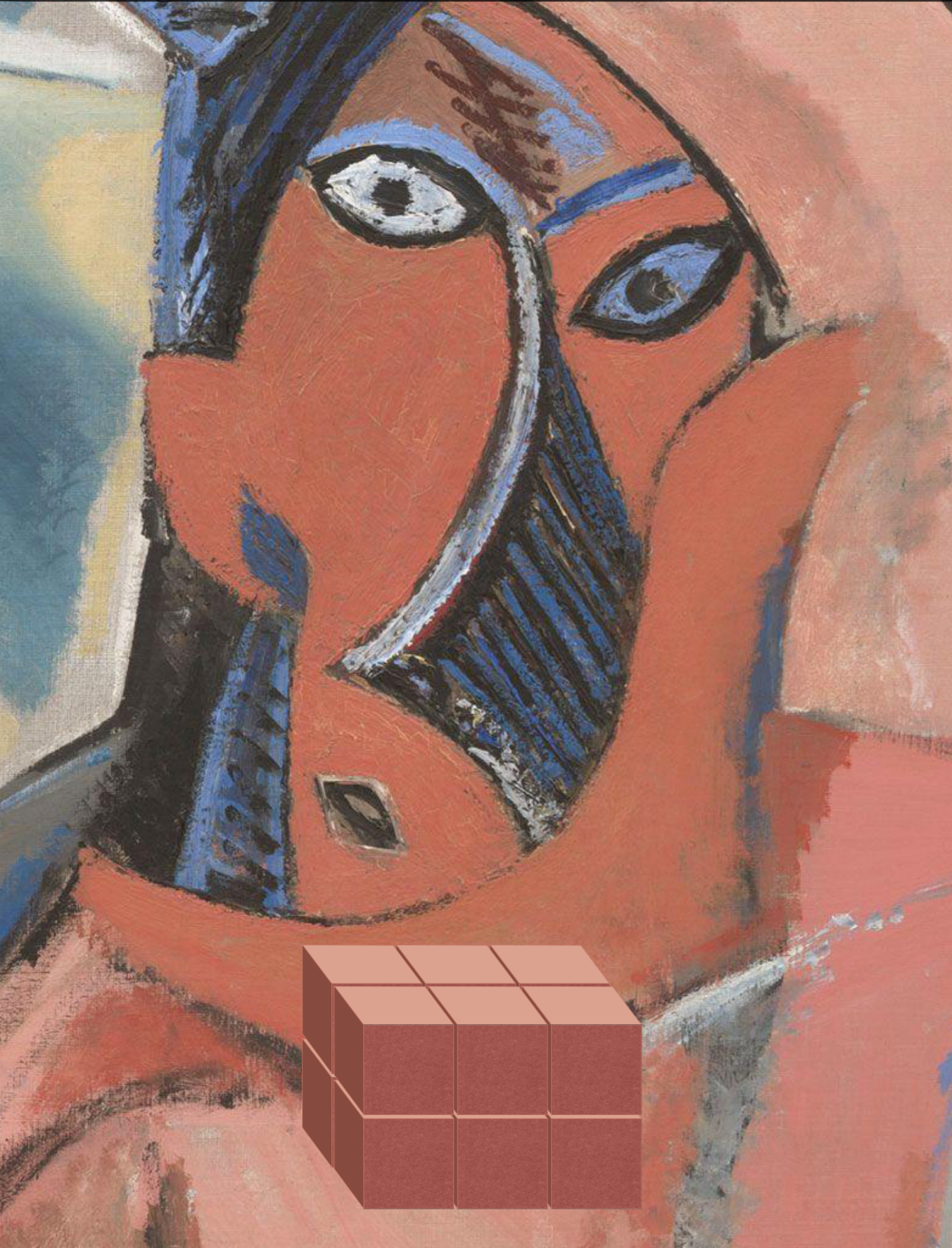
2x2x1



3x2x2

13

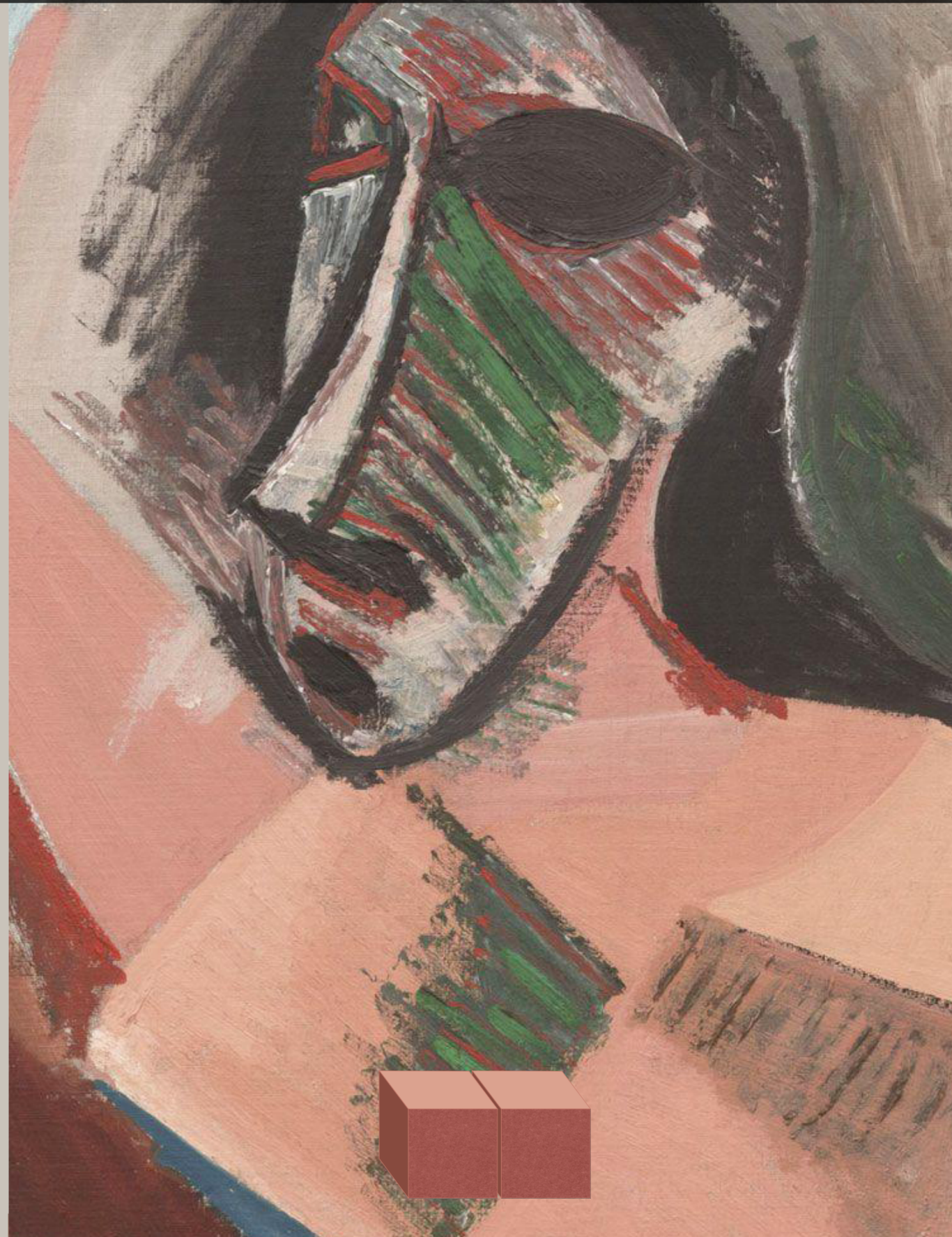
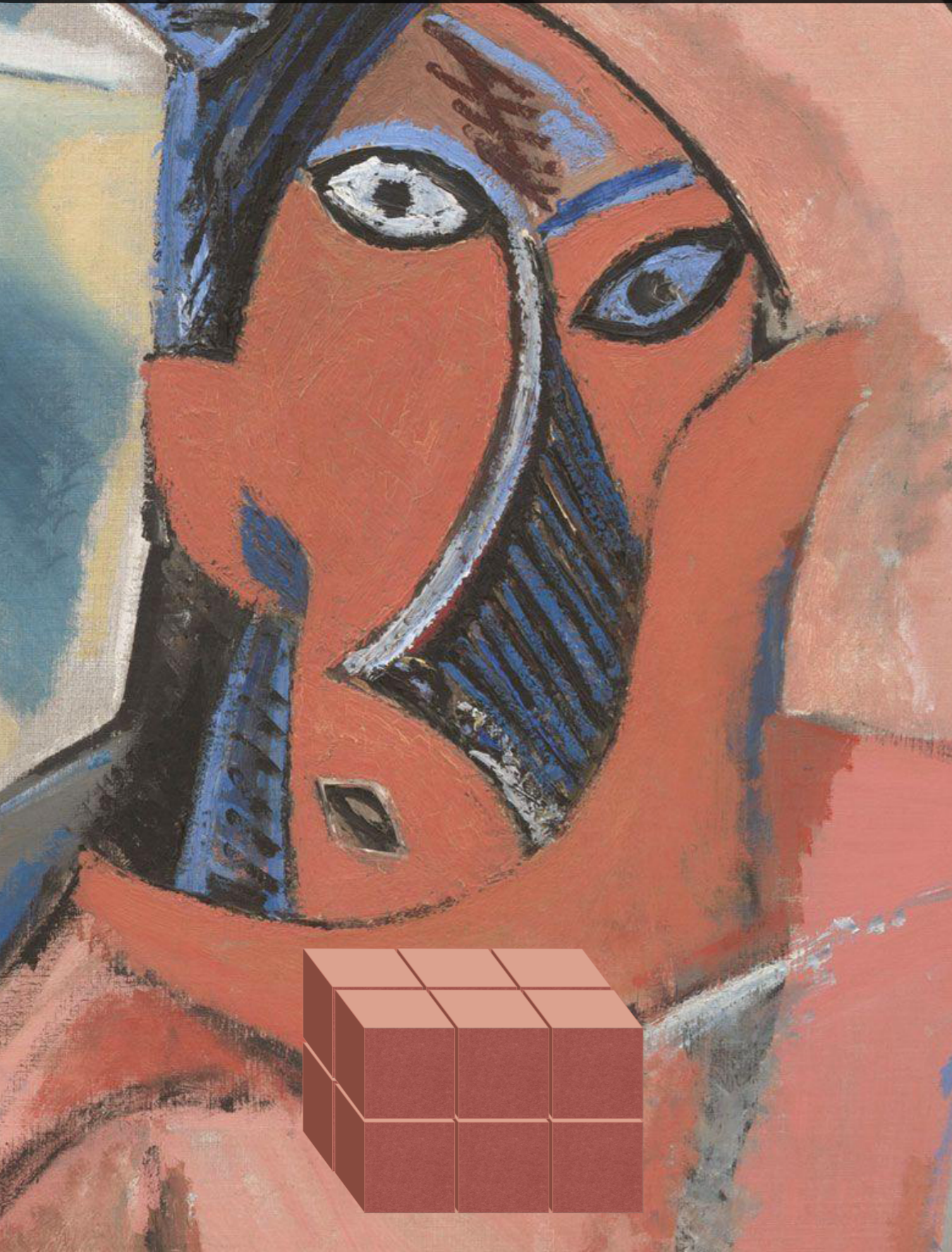
1x1x1



3x2x2

14

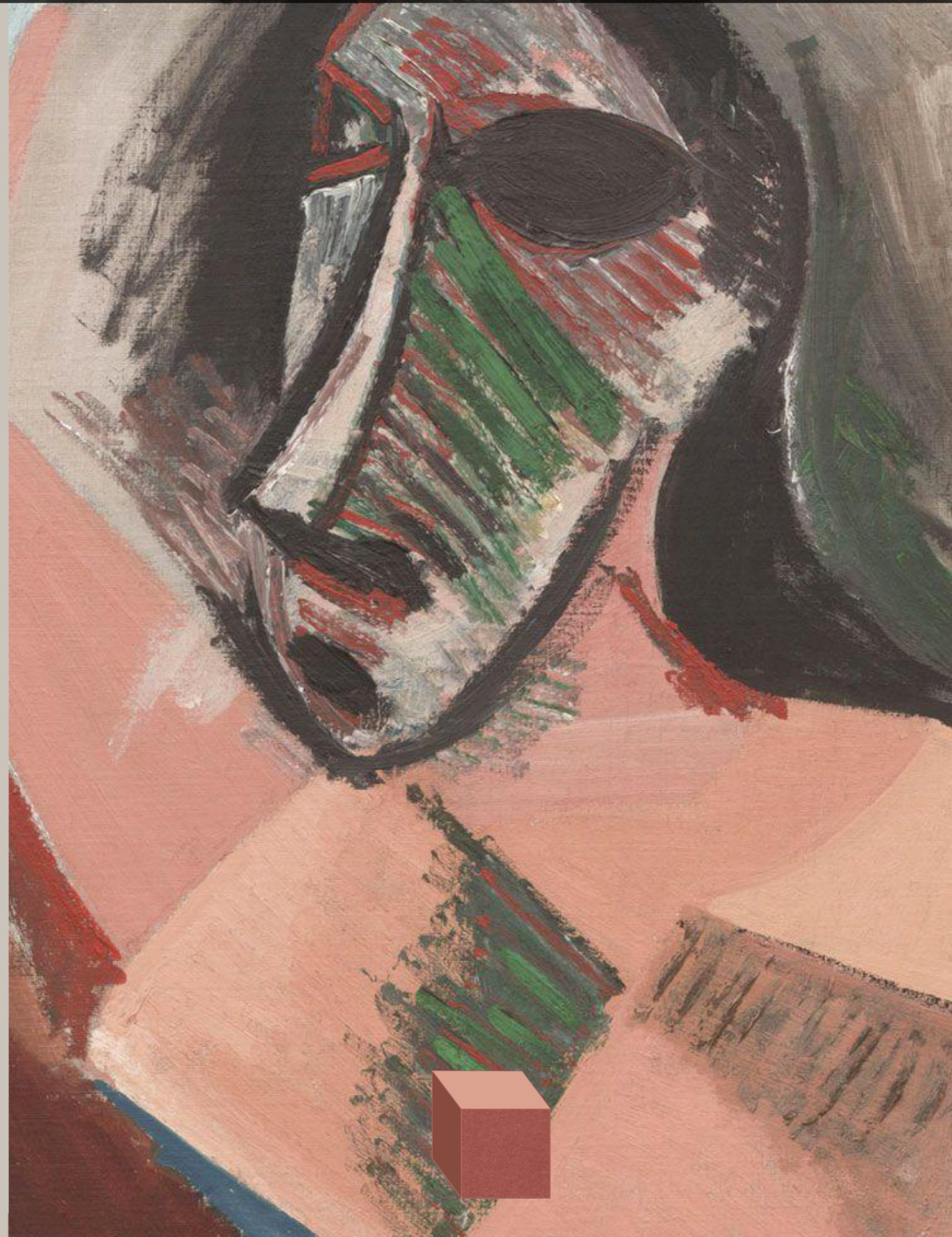
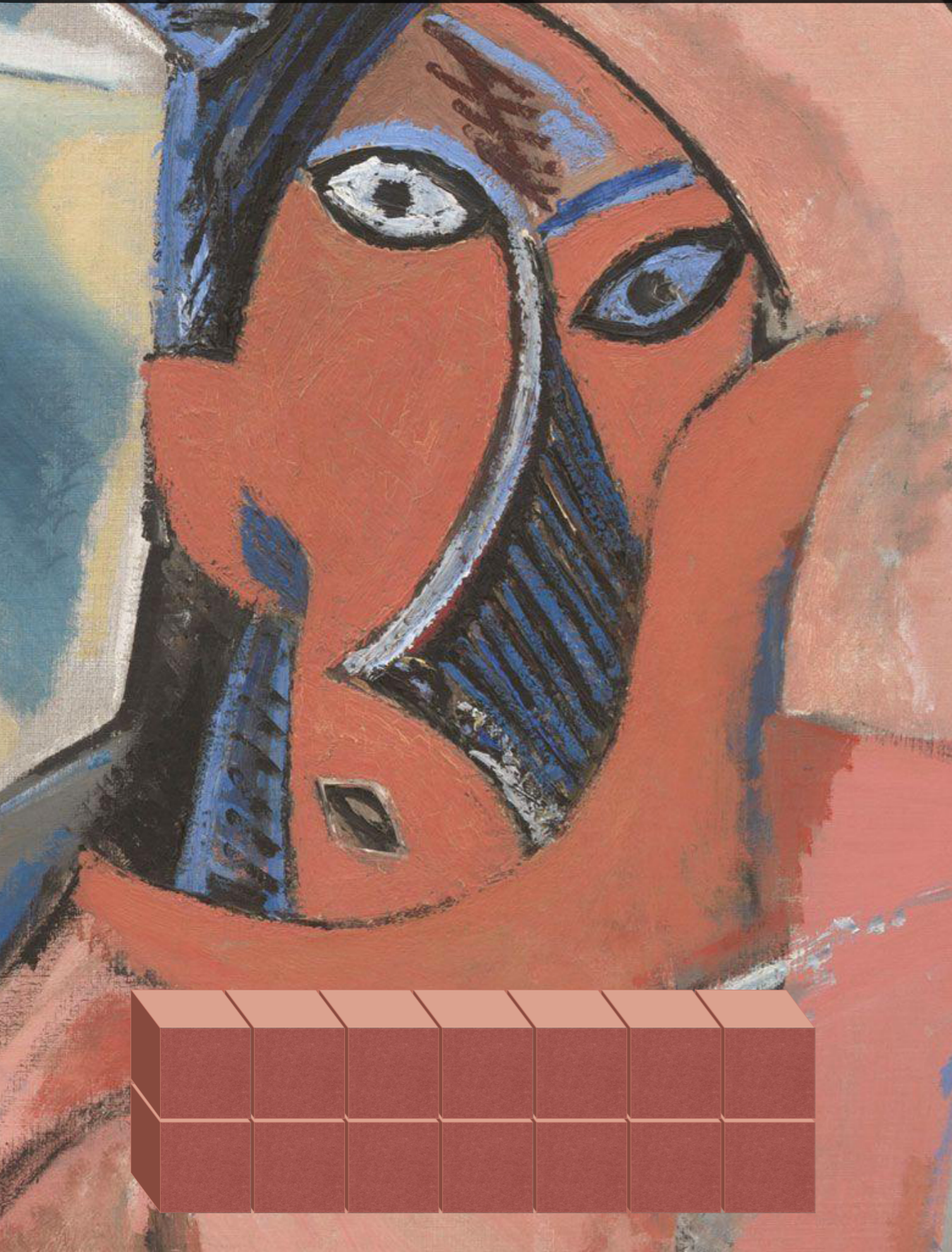
2x1x1



7x2x1

15

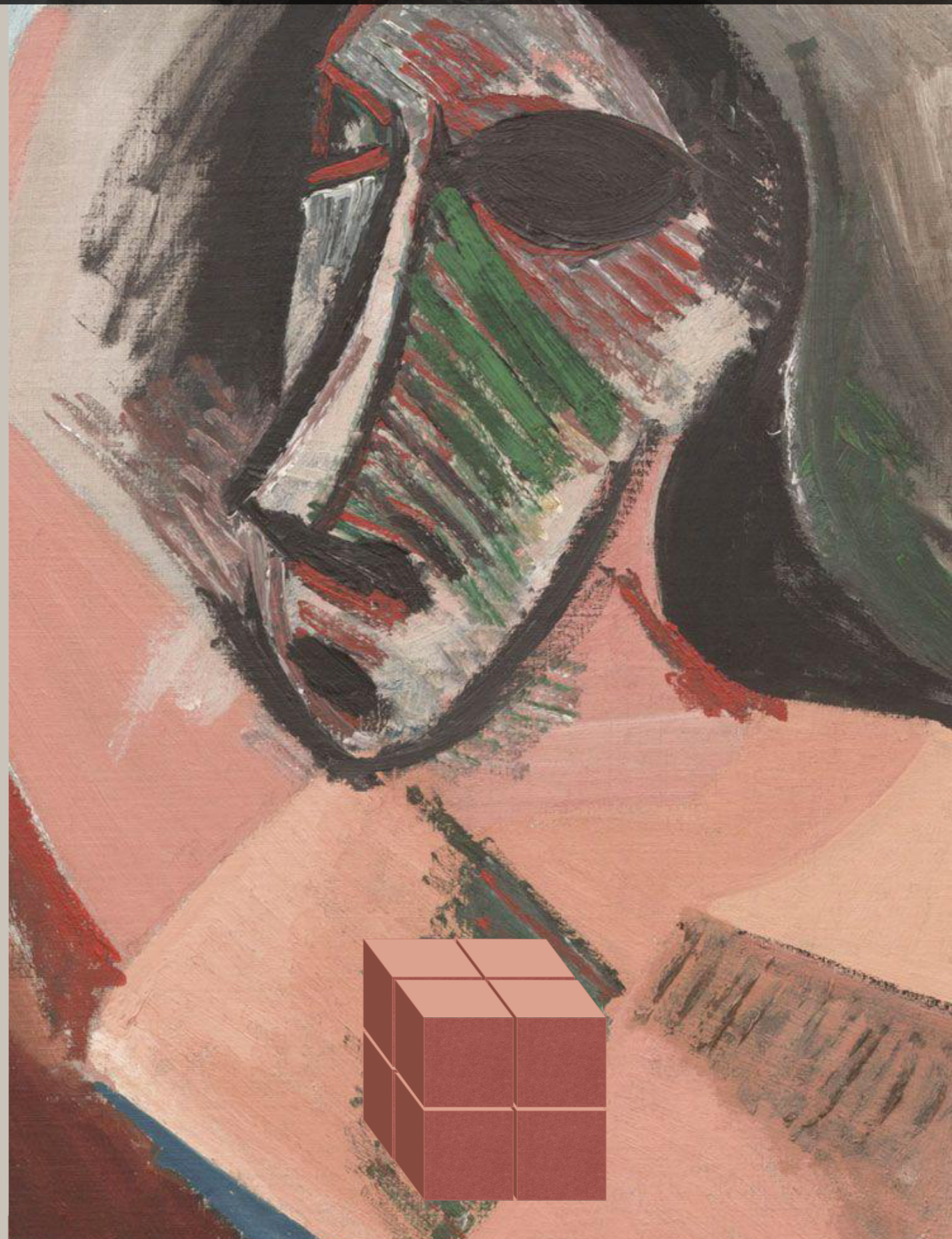
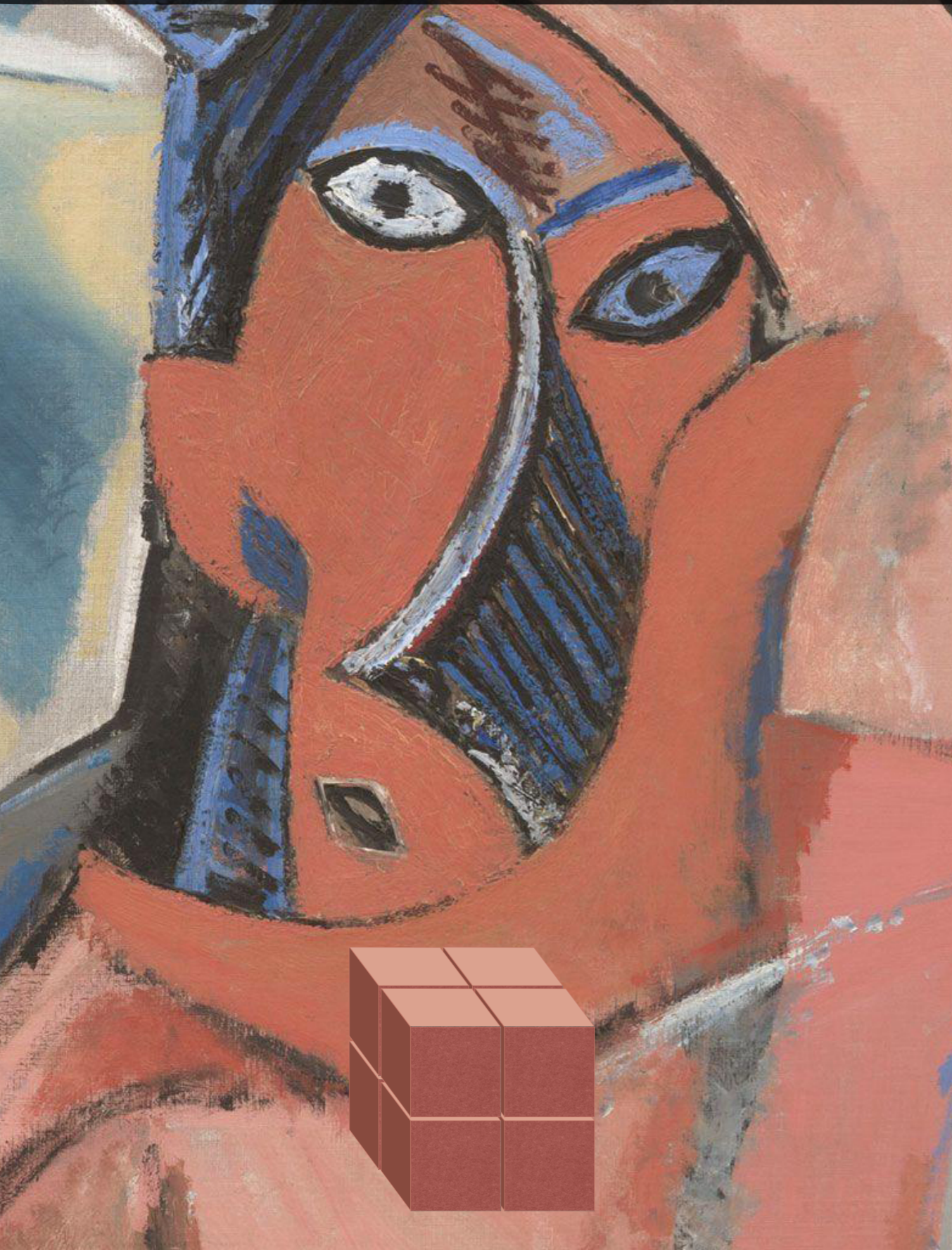
1x1x1



2x2x2

16

2x2x2

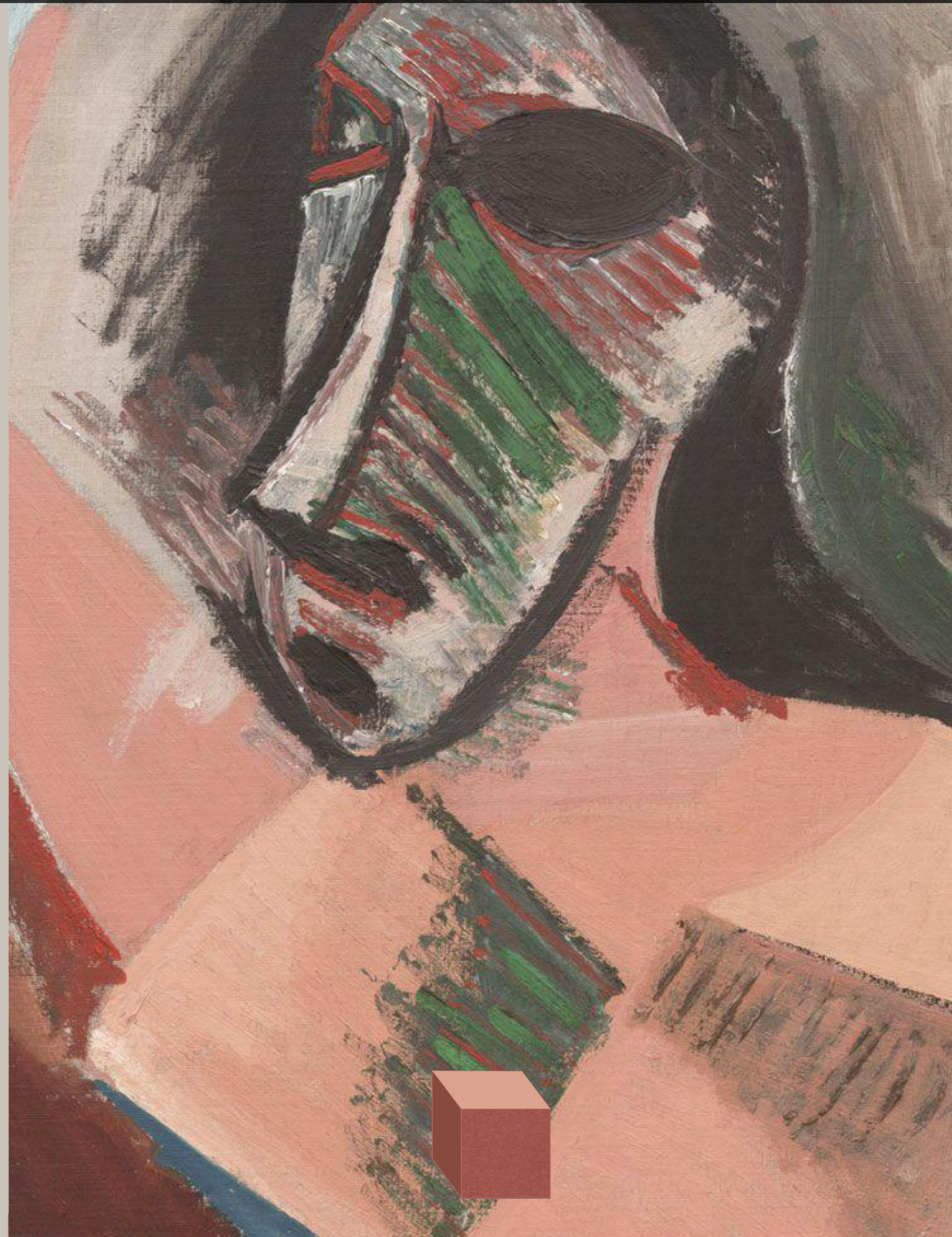
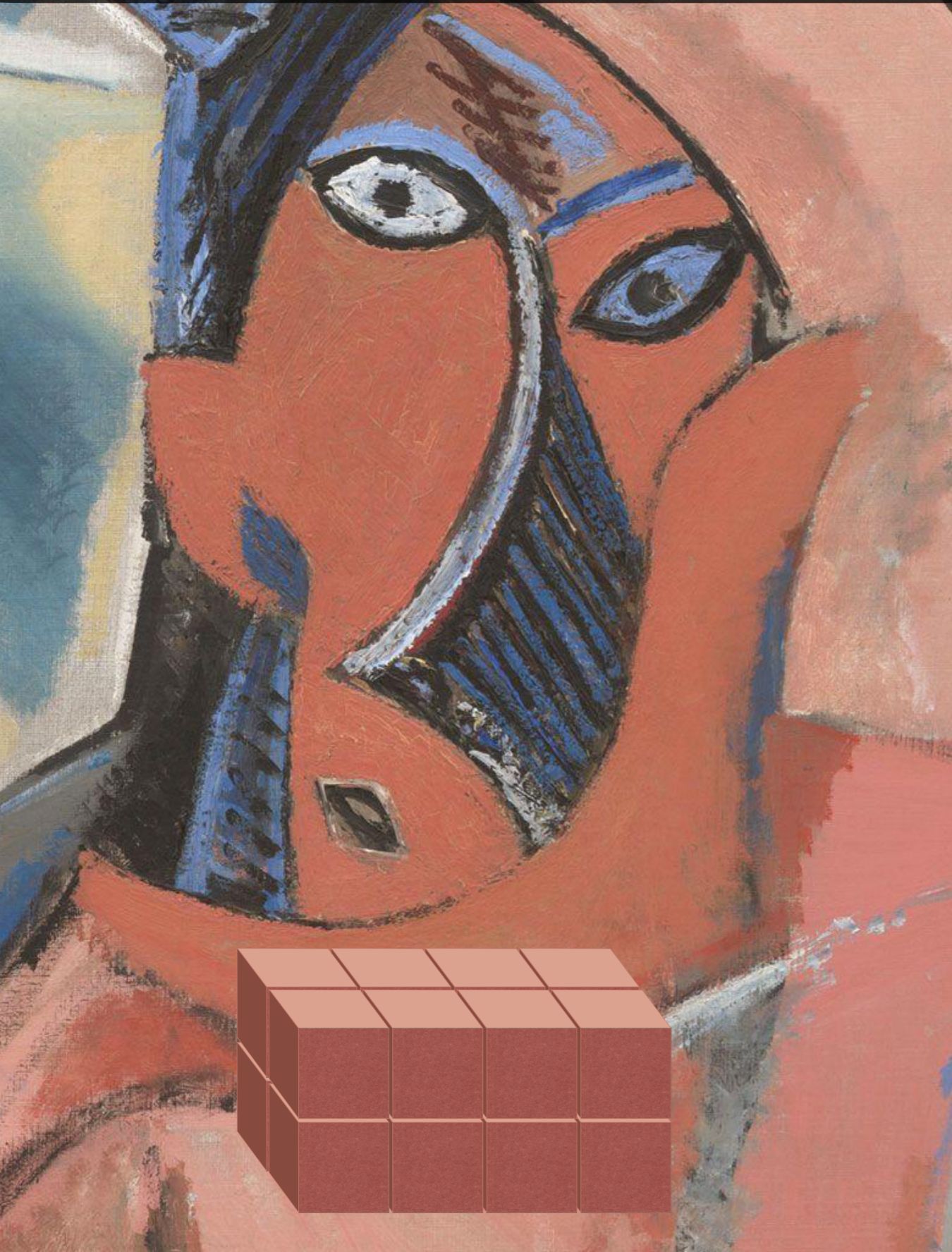




4x2x2

17

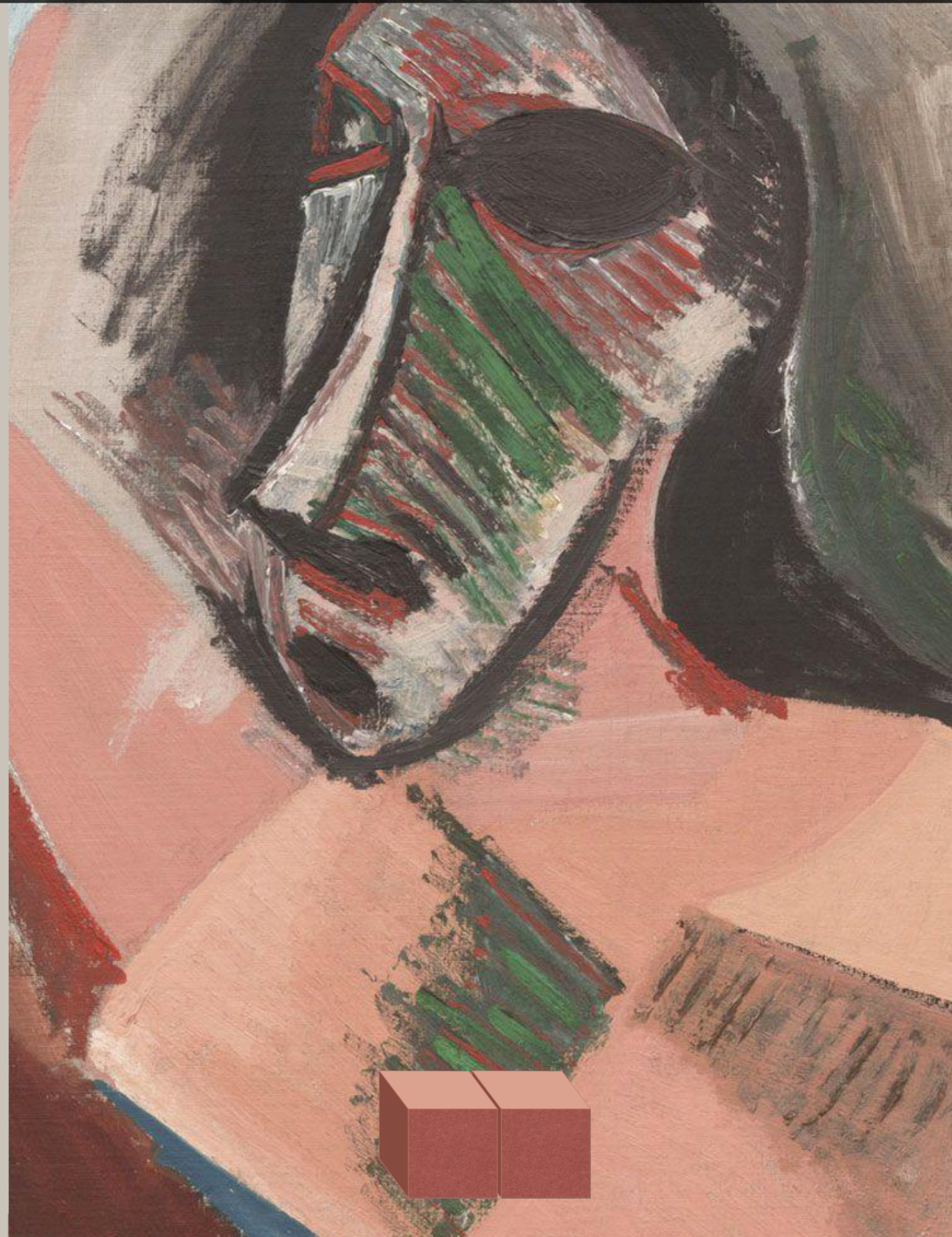
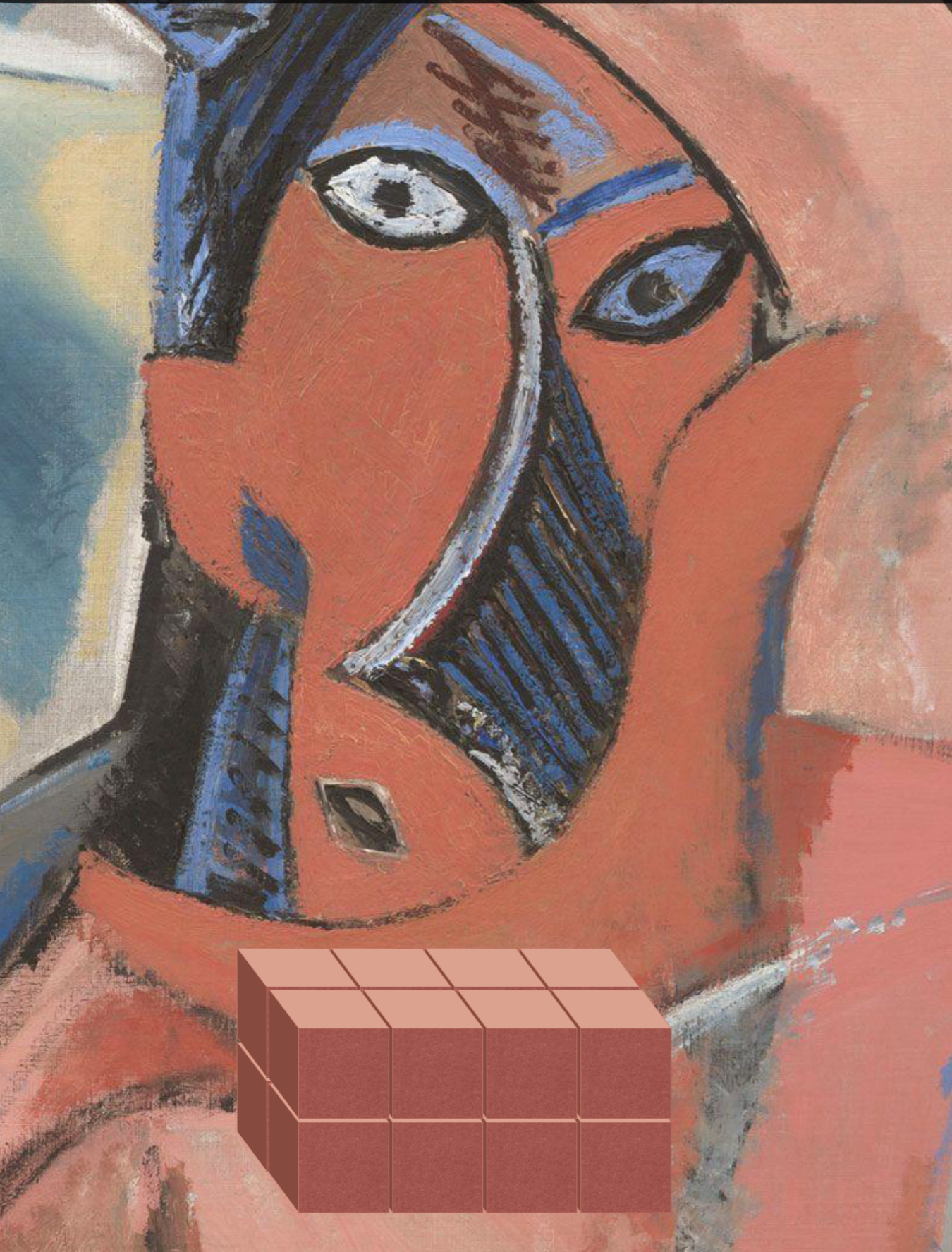
1x1x1



4x2x2

18

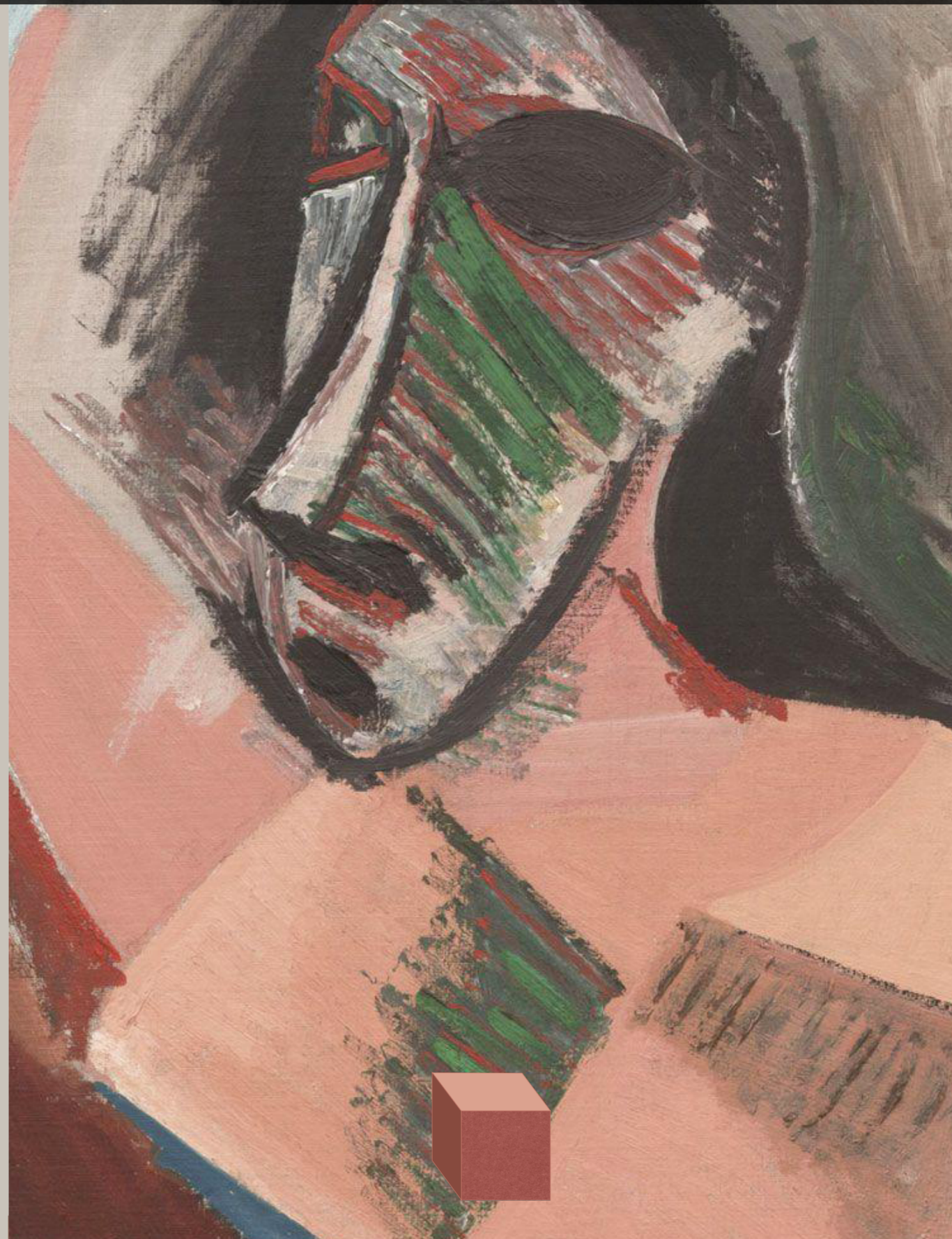
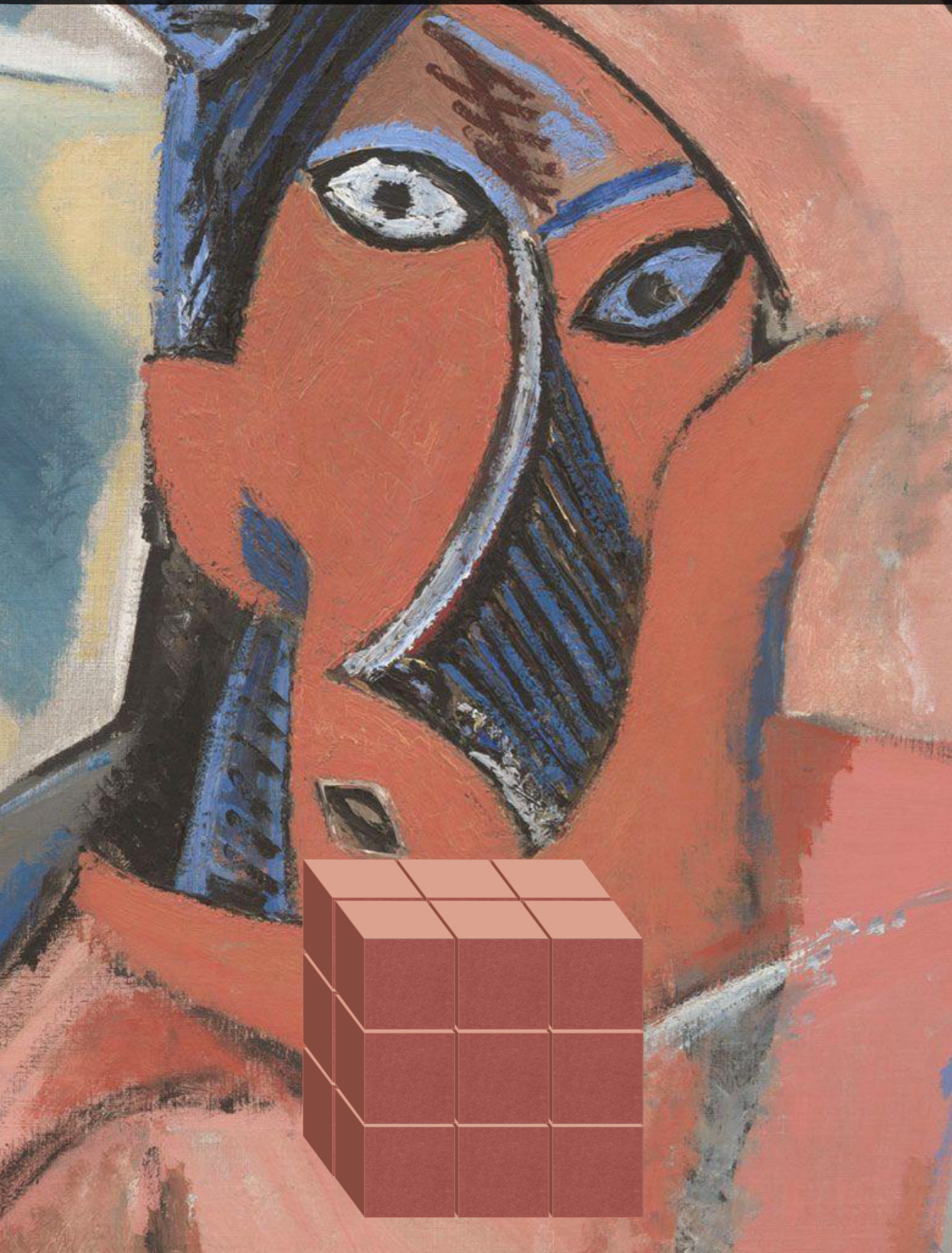
2x1x1



$3 \times 3 \times 2$

19

$1 \times 1 \times 1$



$3 \times 2 \times 2$

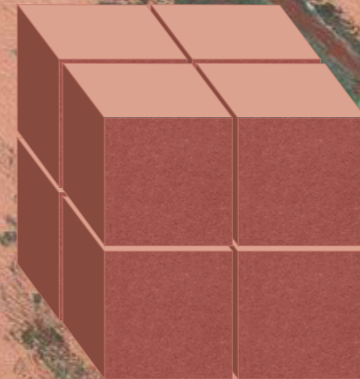
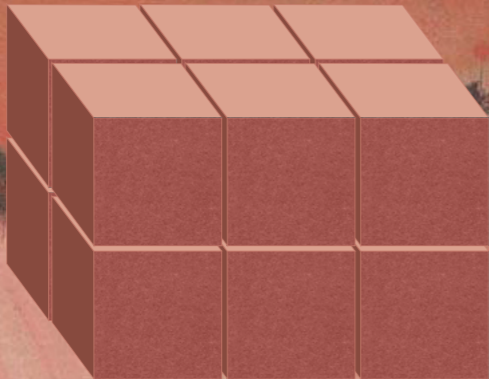
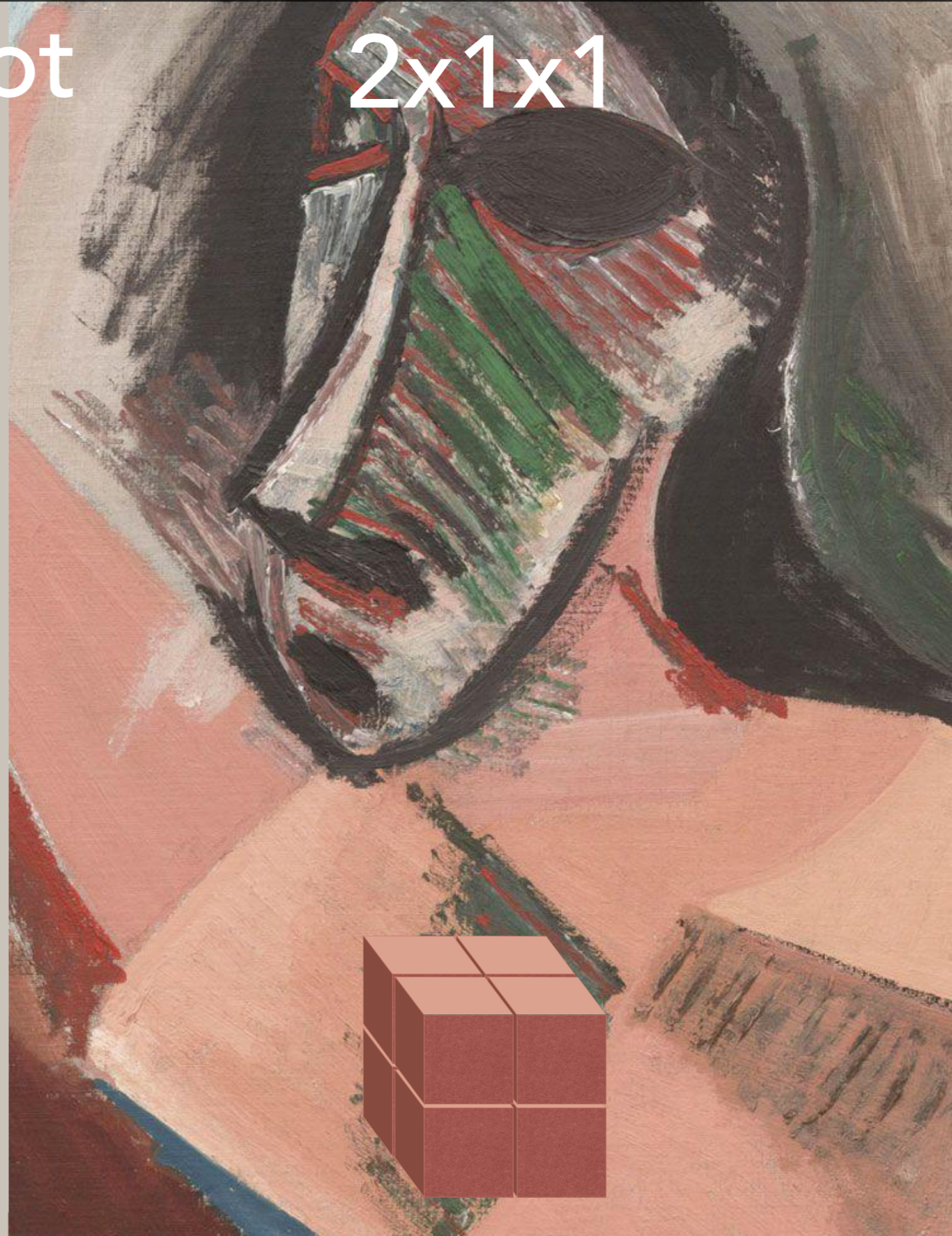
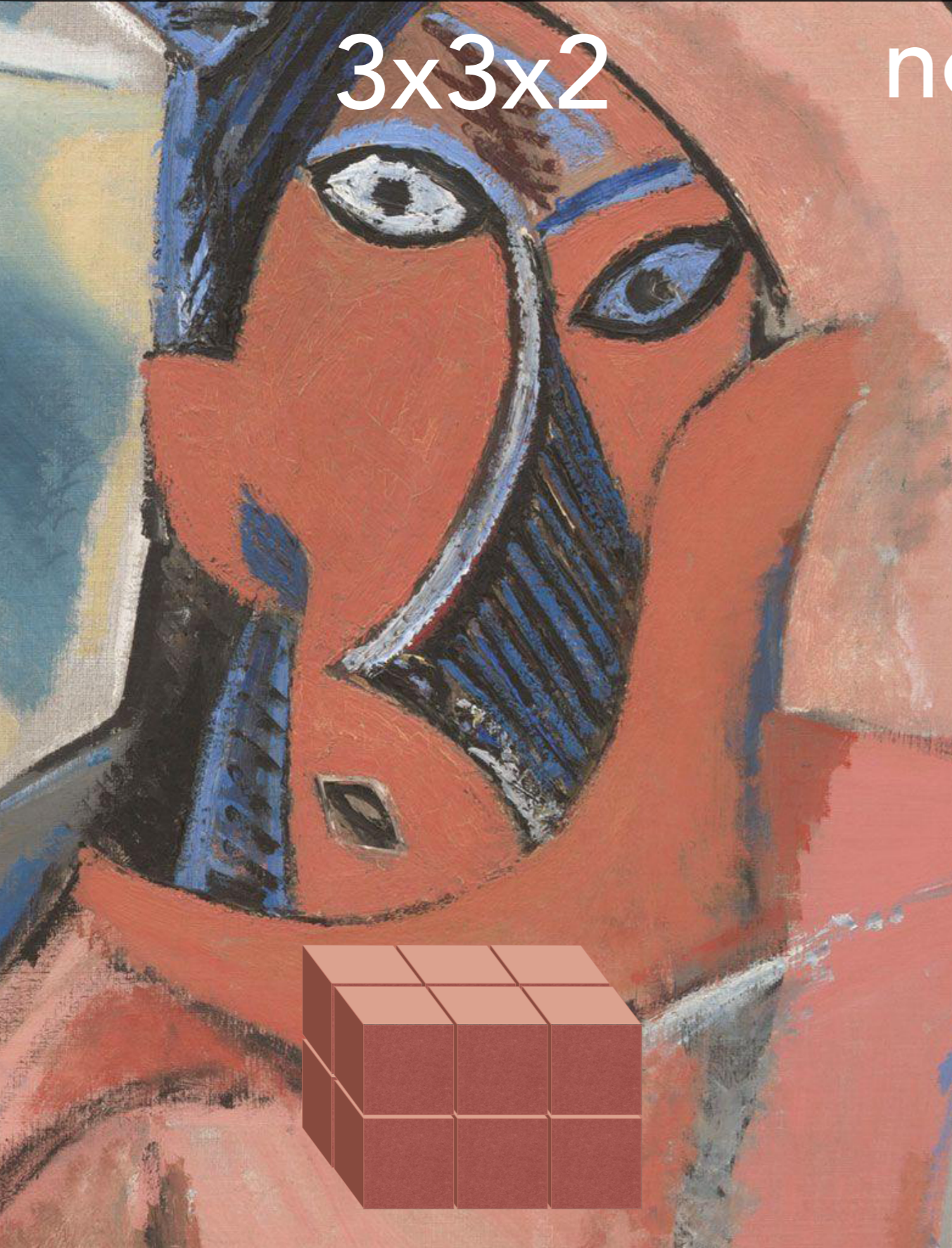
**20**

$2 \times 2 \times 2$

$3 \times 3 \times 2$

not

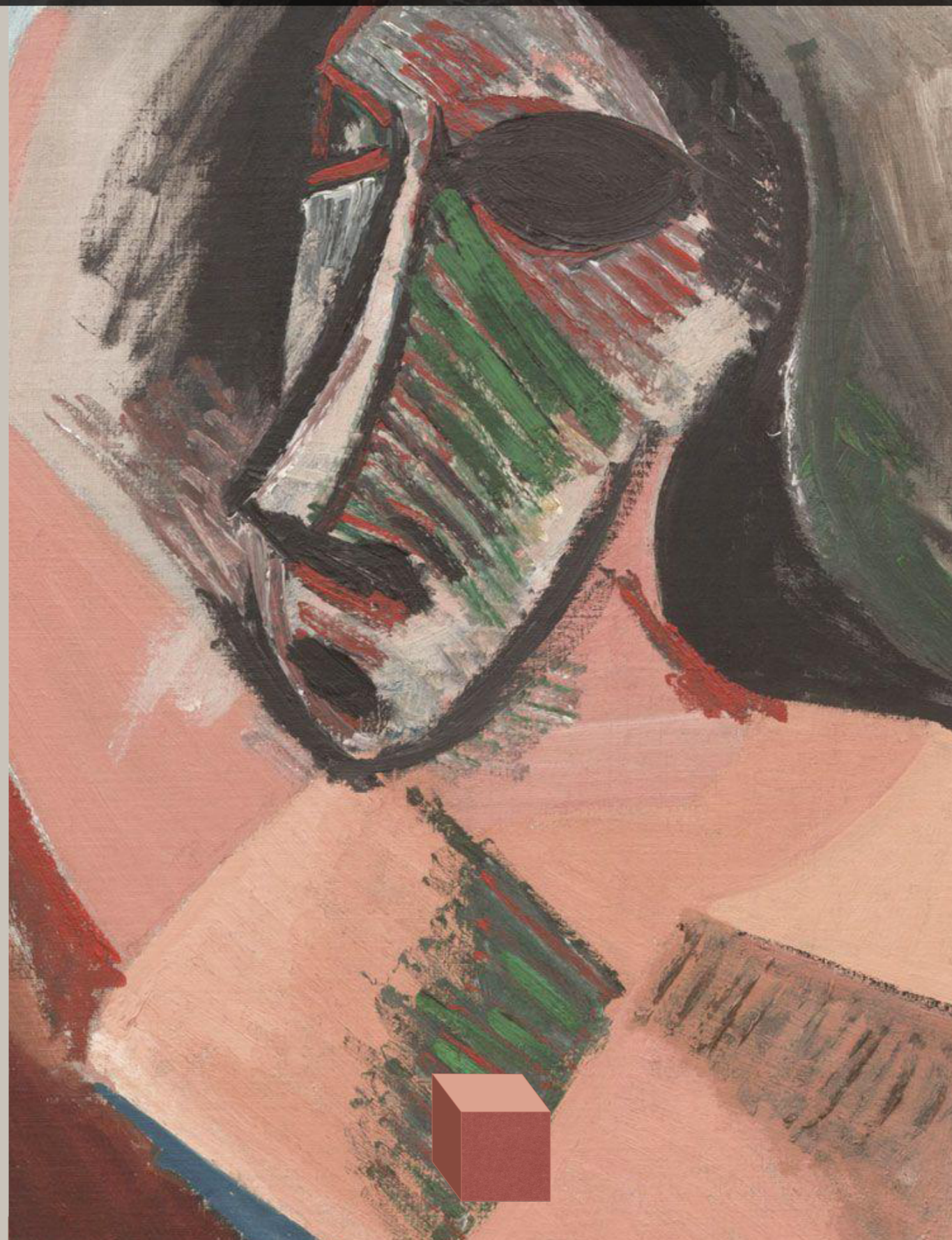
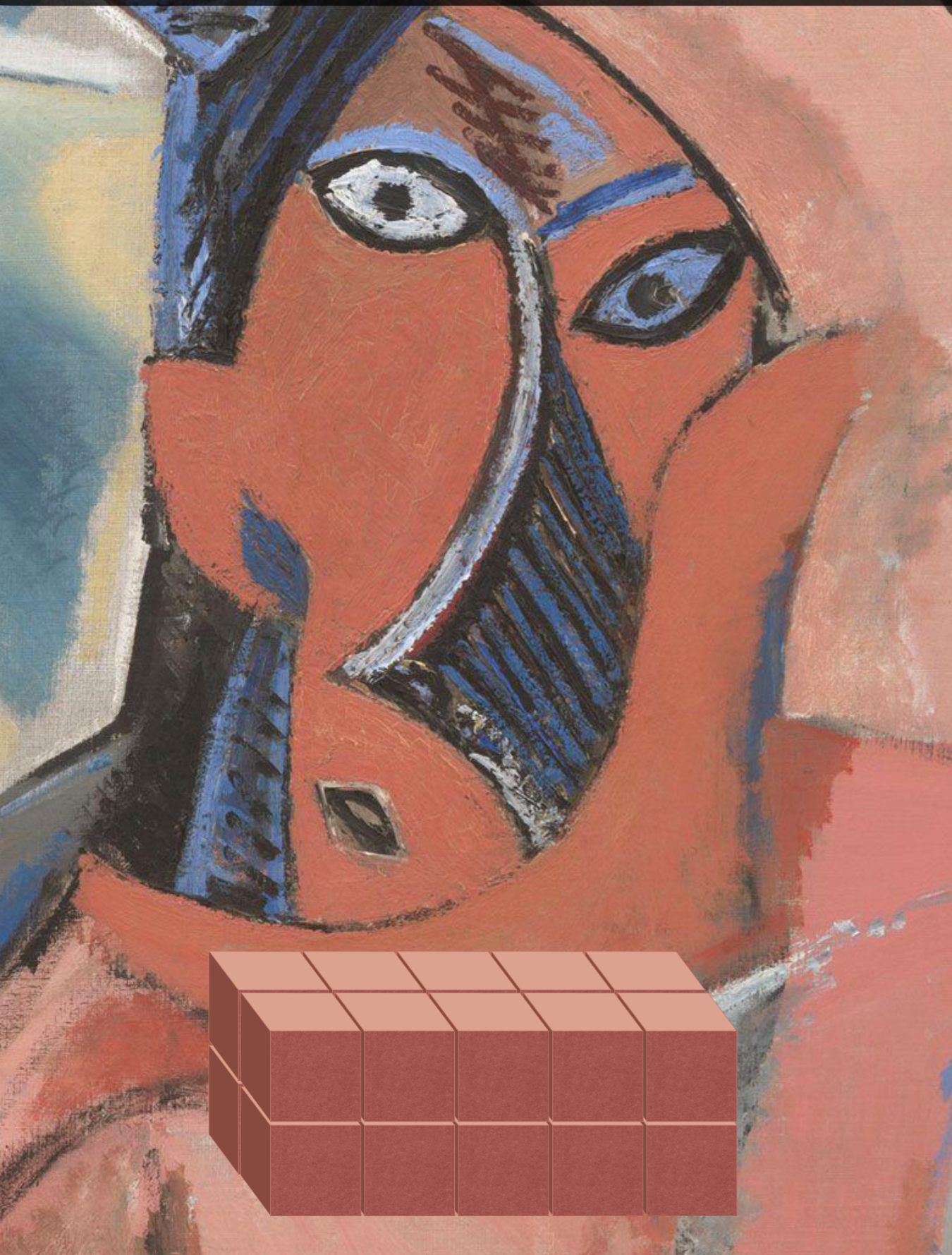
$2 \times 1 \times 1$



5x2x2

21

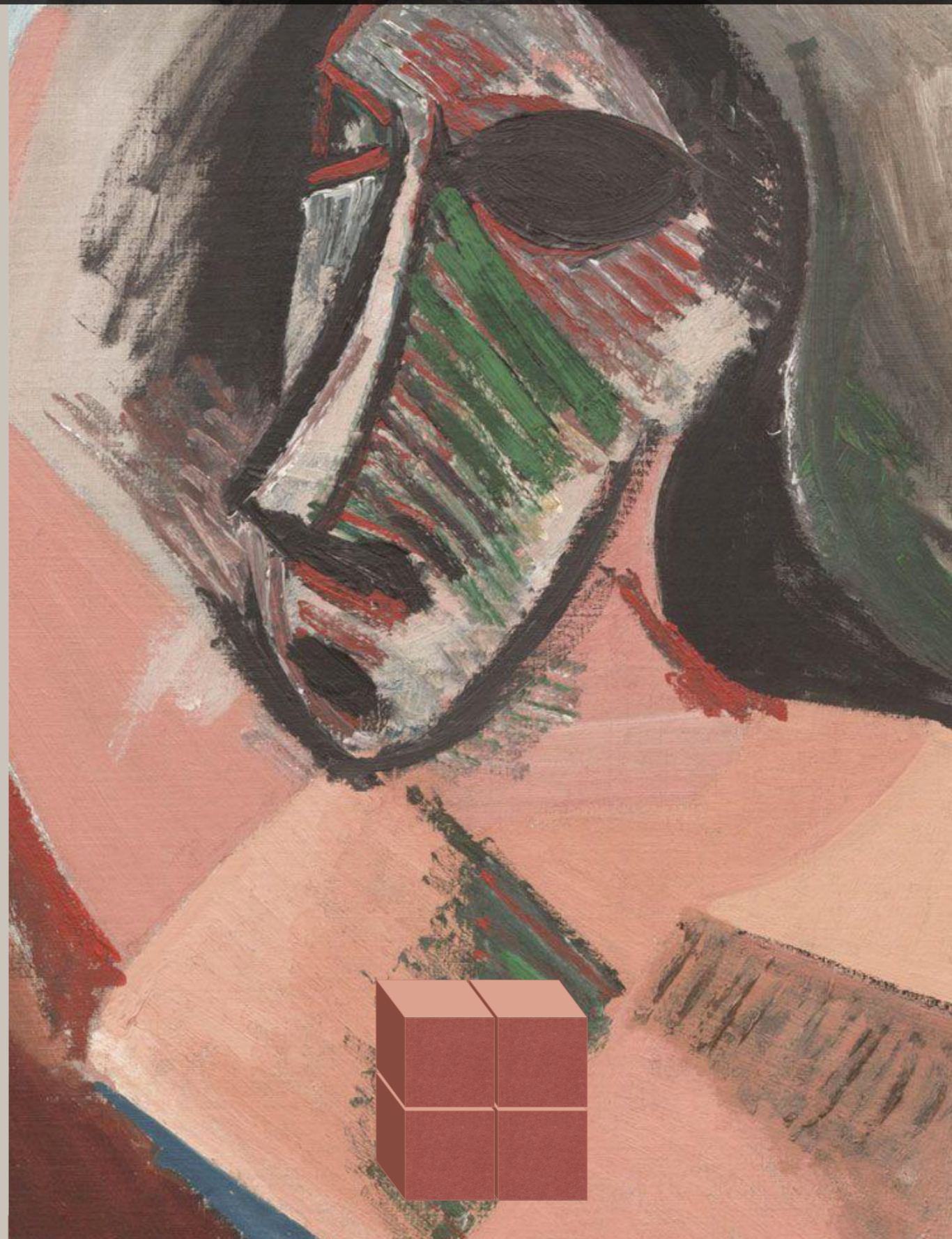
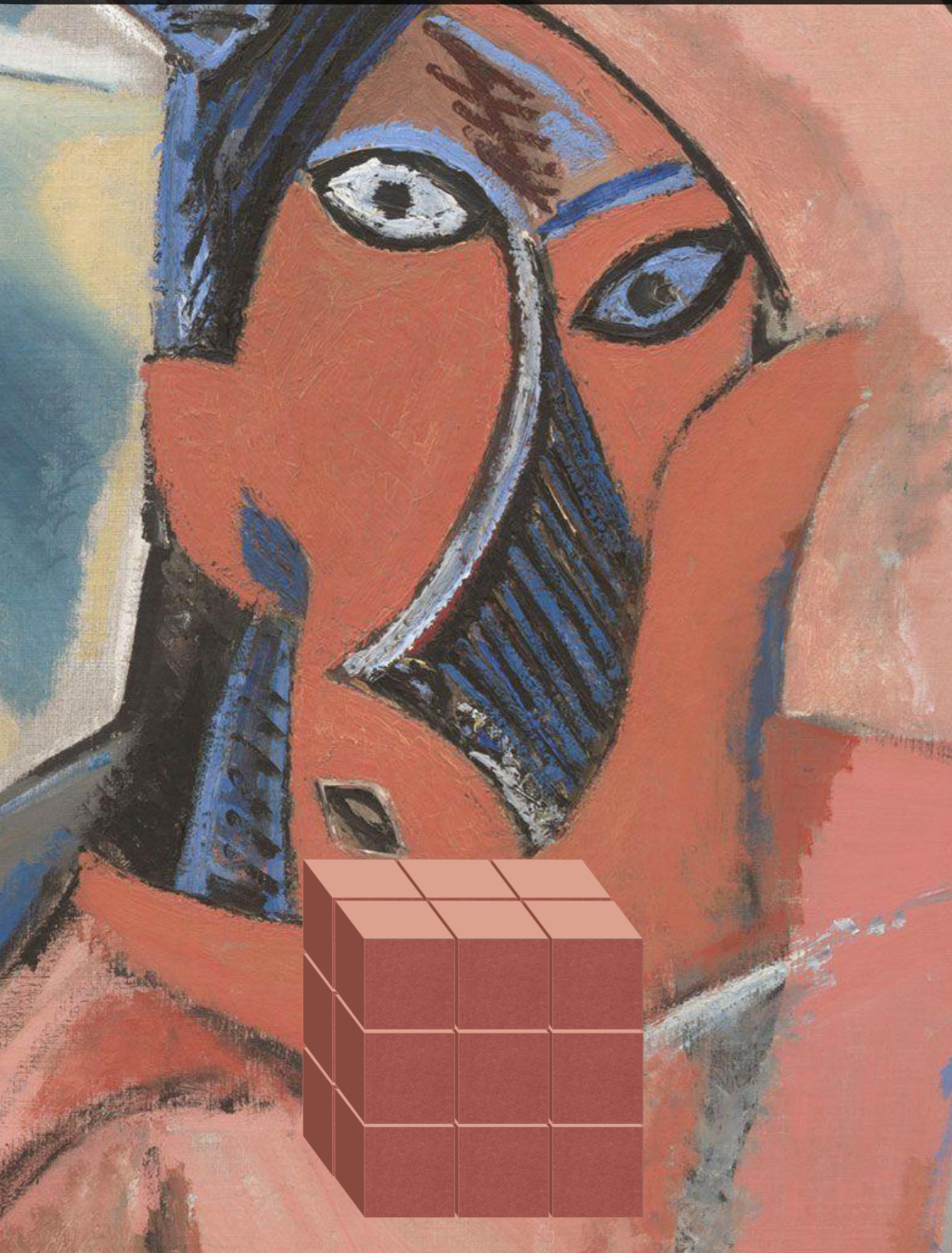
1x1x1



3x3x2

22

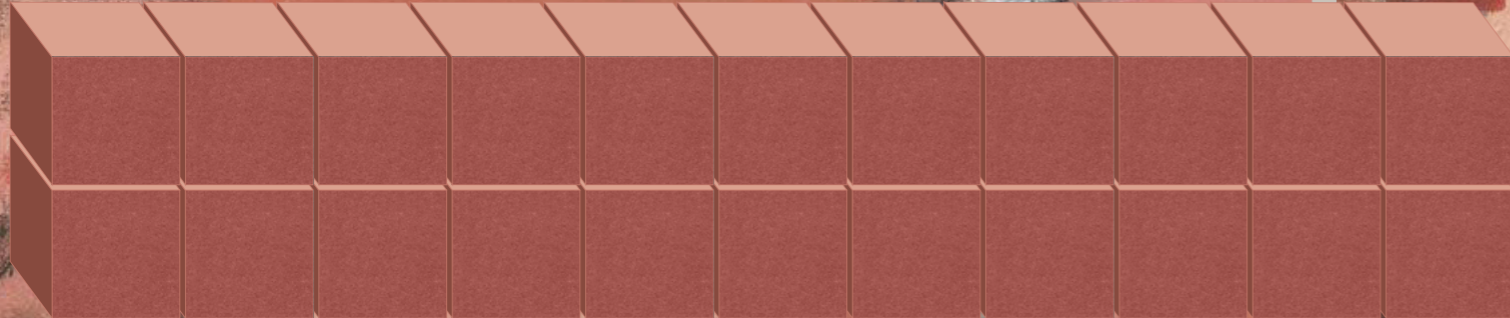
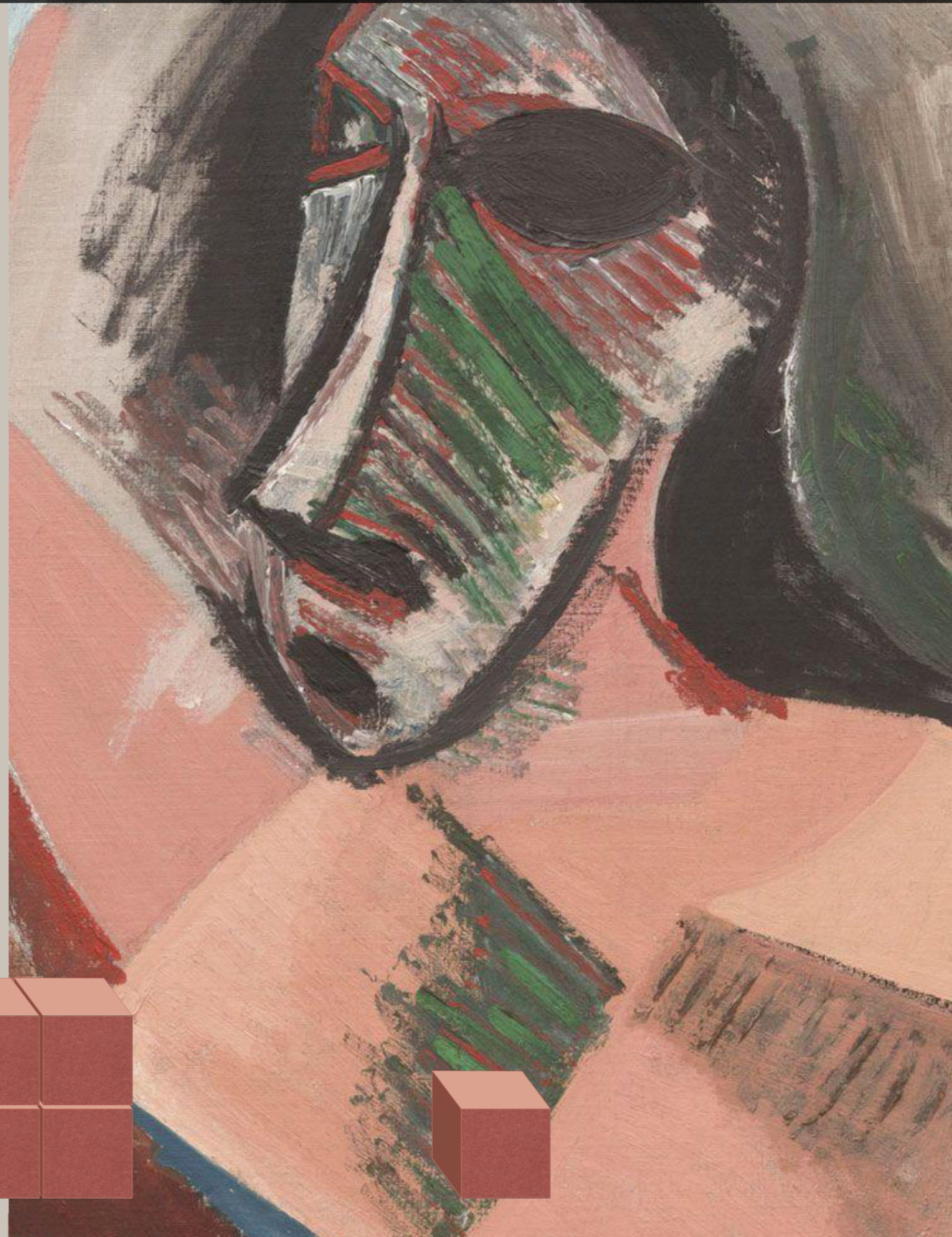
2x2x1



11x2x1

23

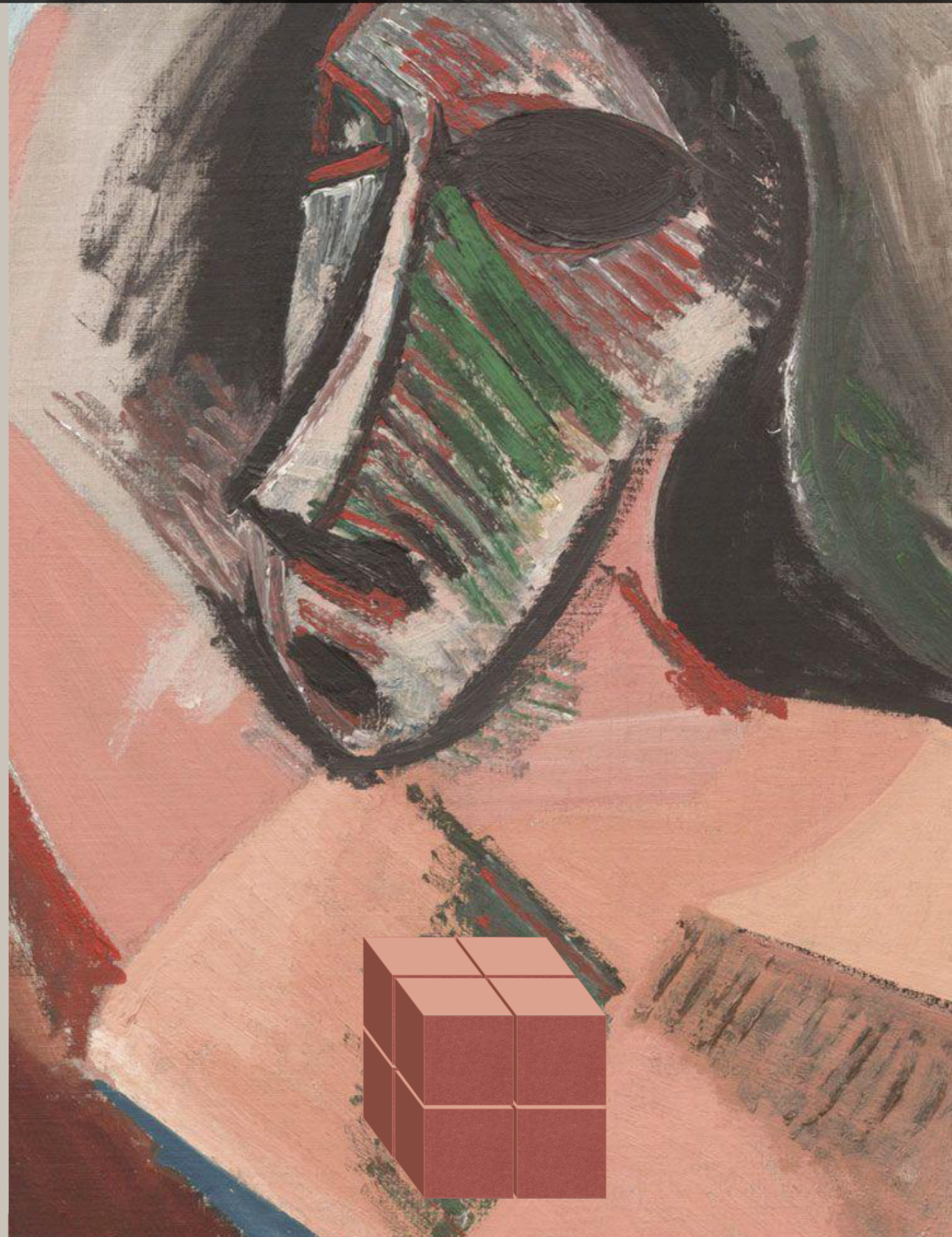
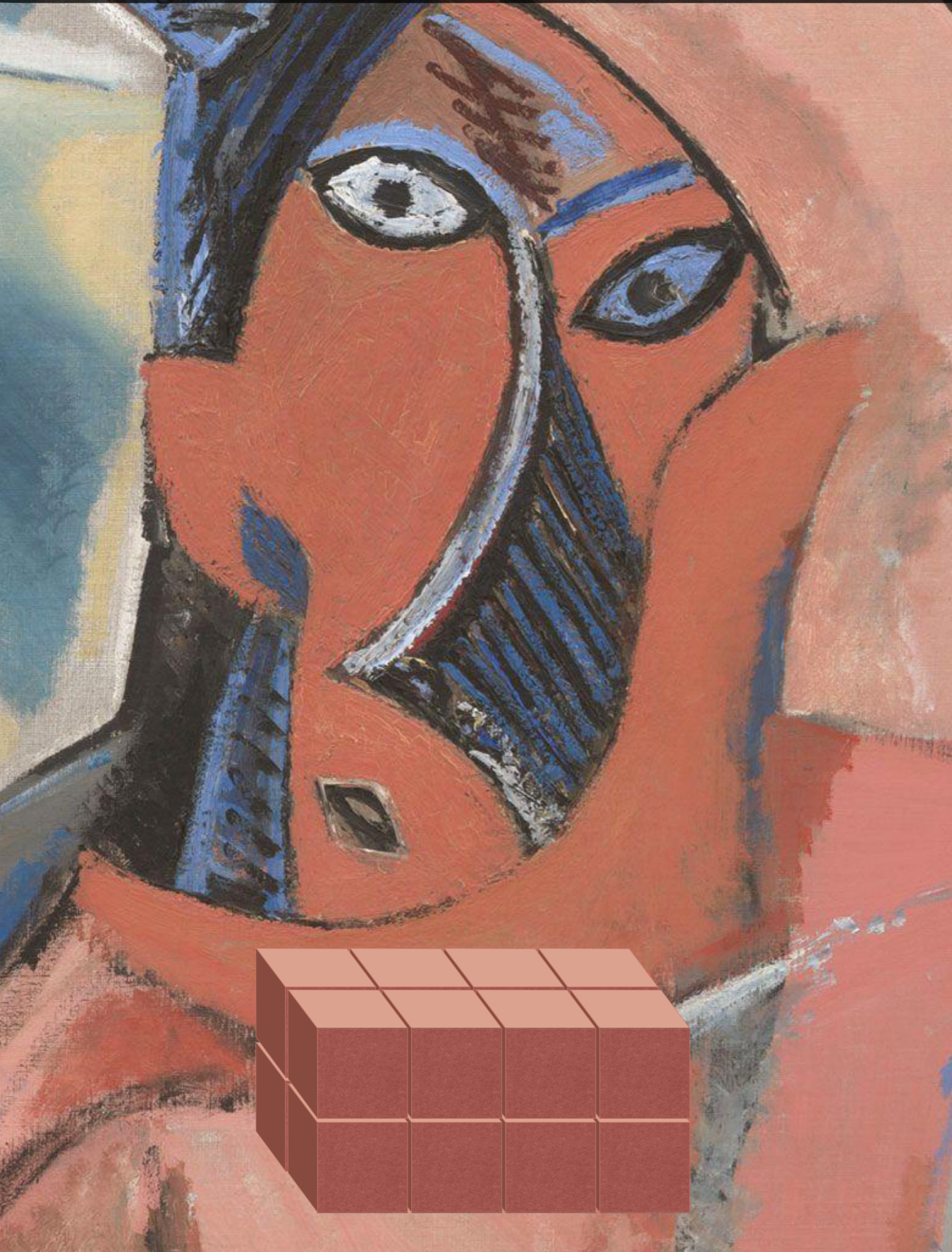
1x1x1



4x2x2

24

2x2x2

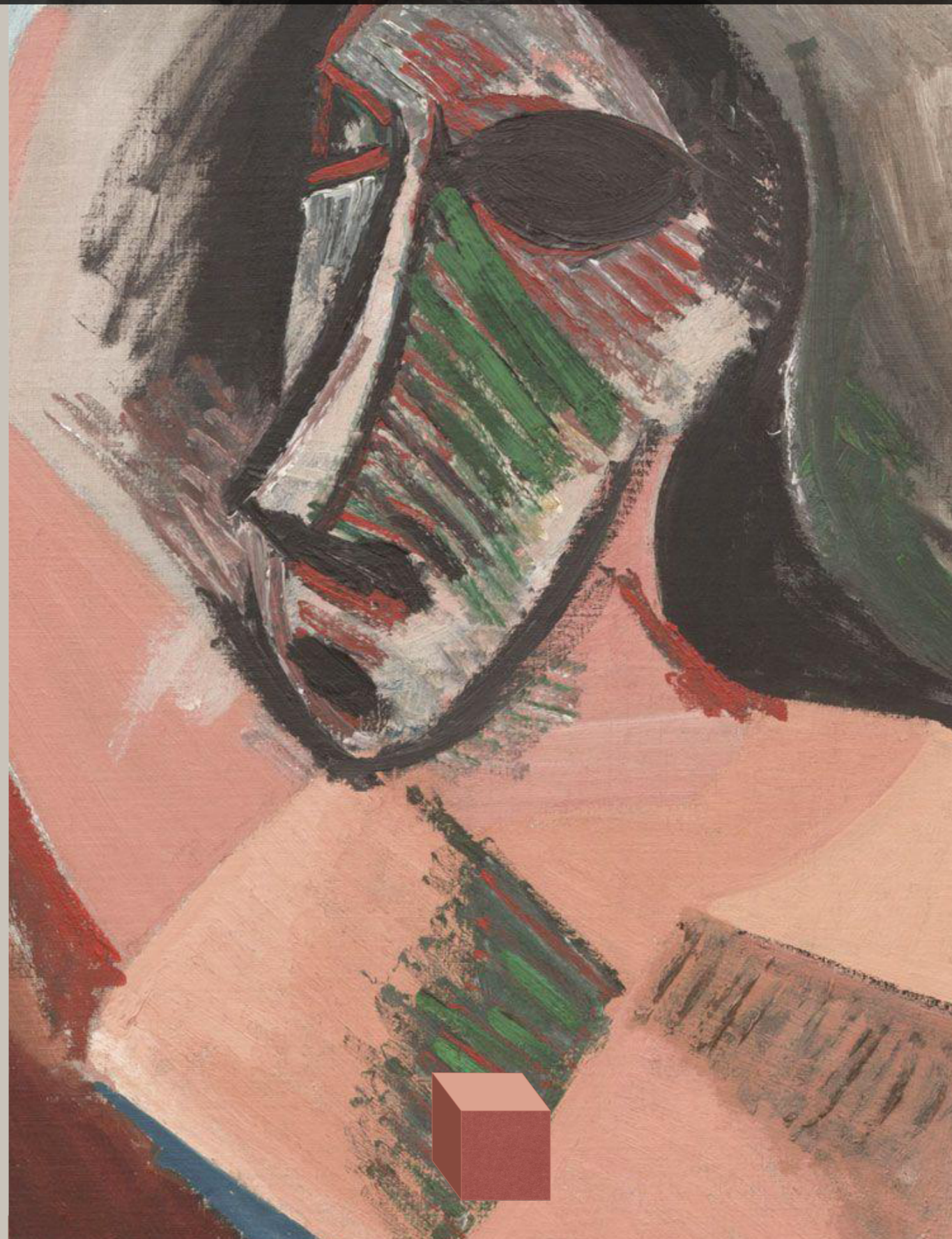
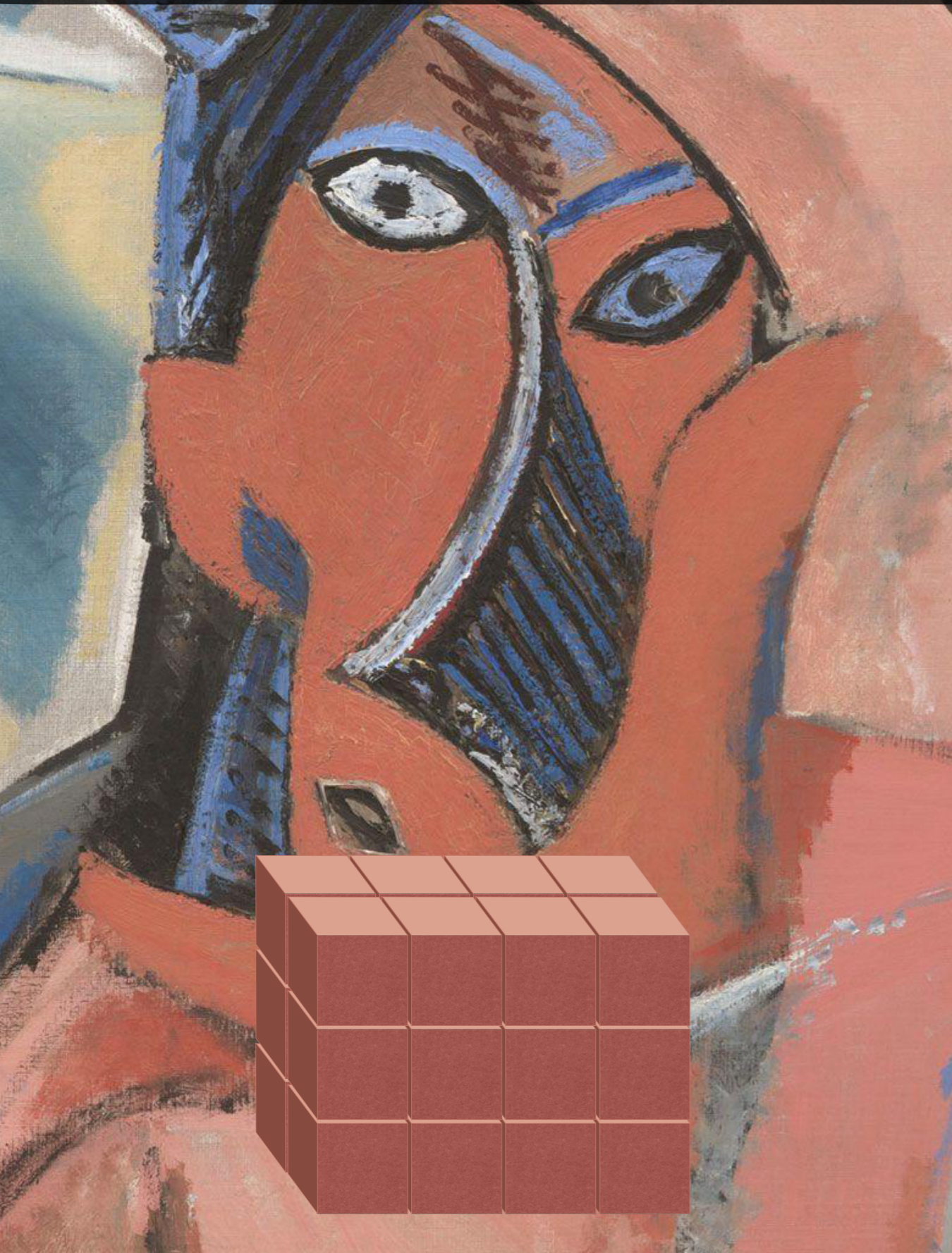




4x3x2

25

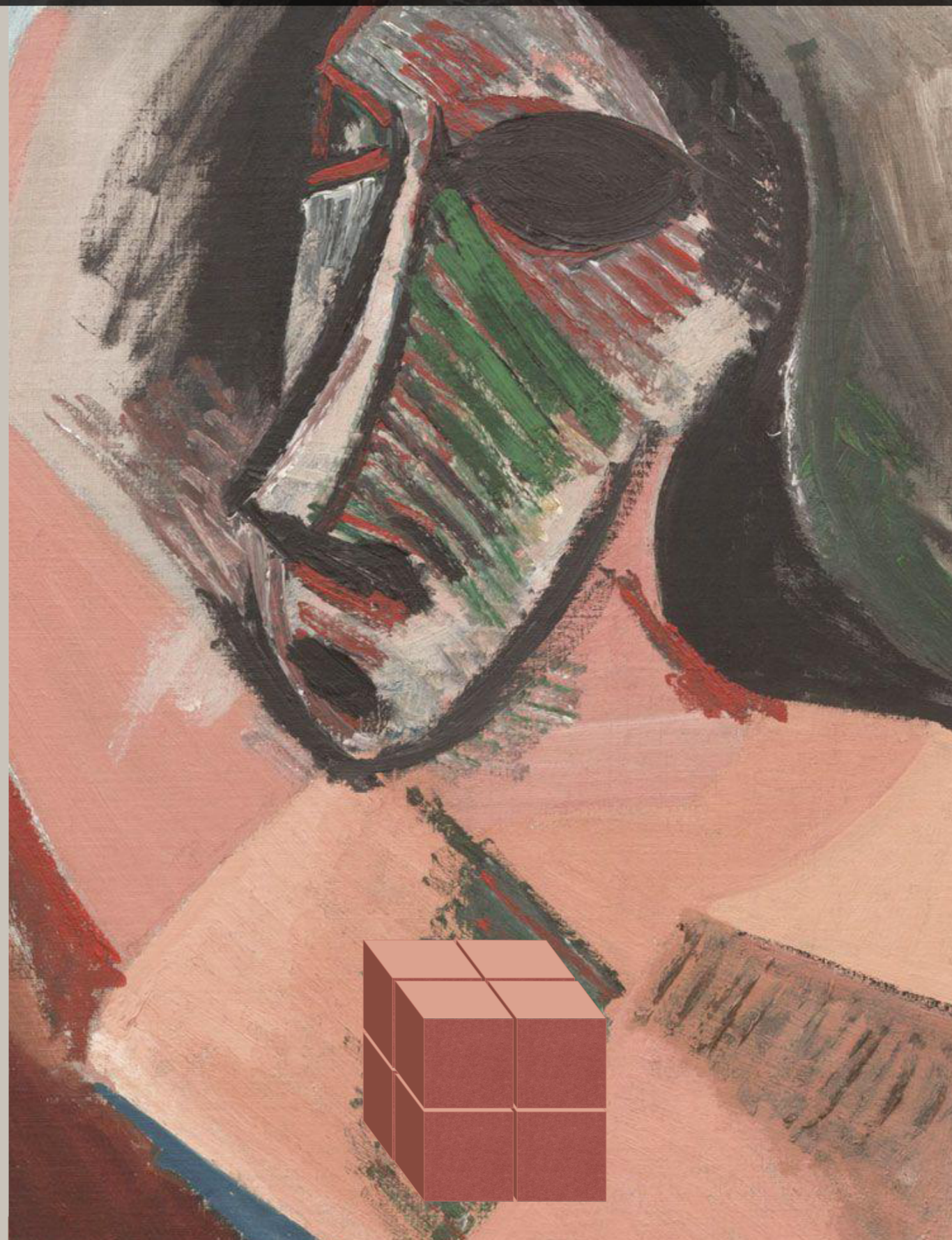
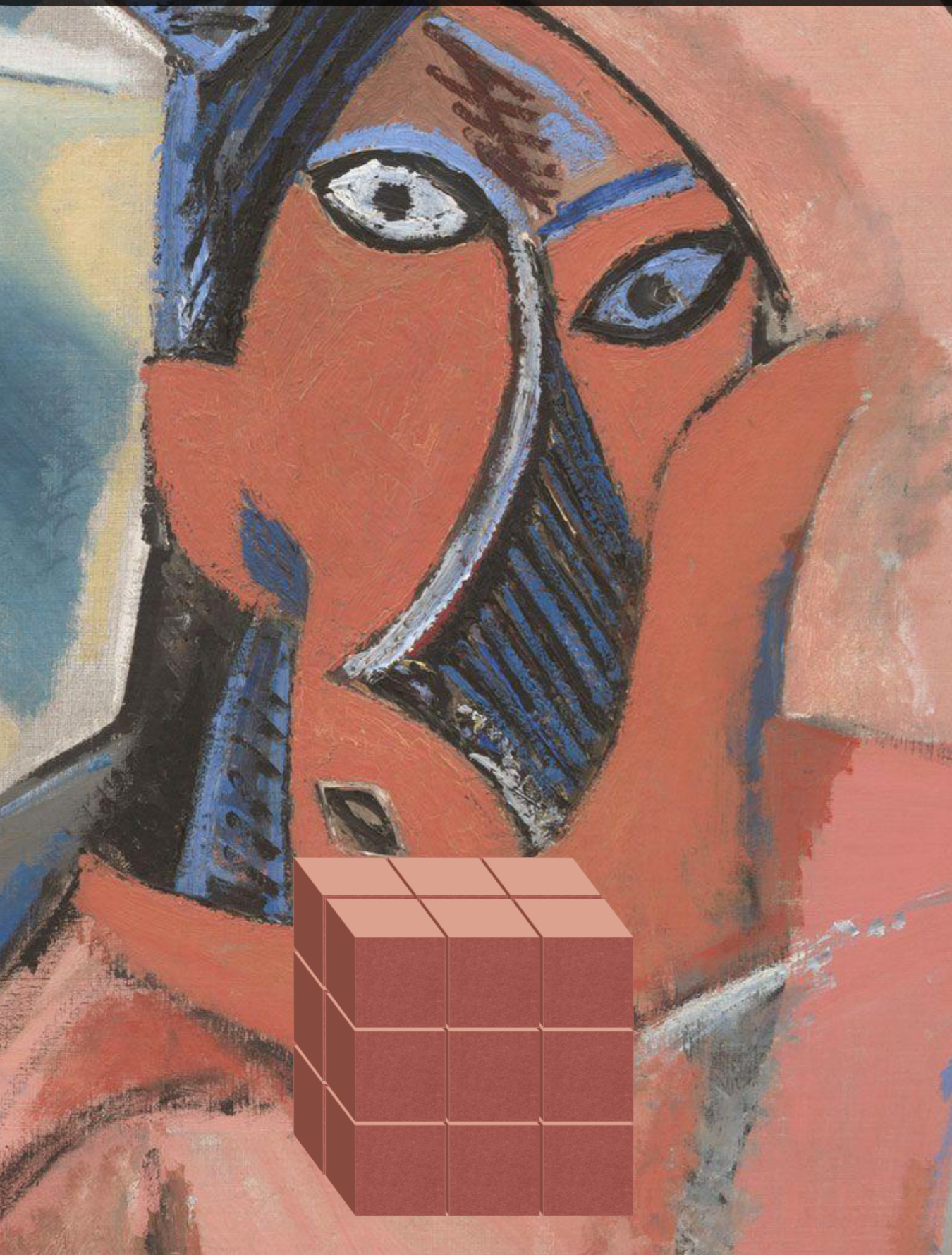
1x1x1



$3 \times 3 \times 2$

26

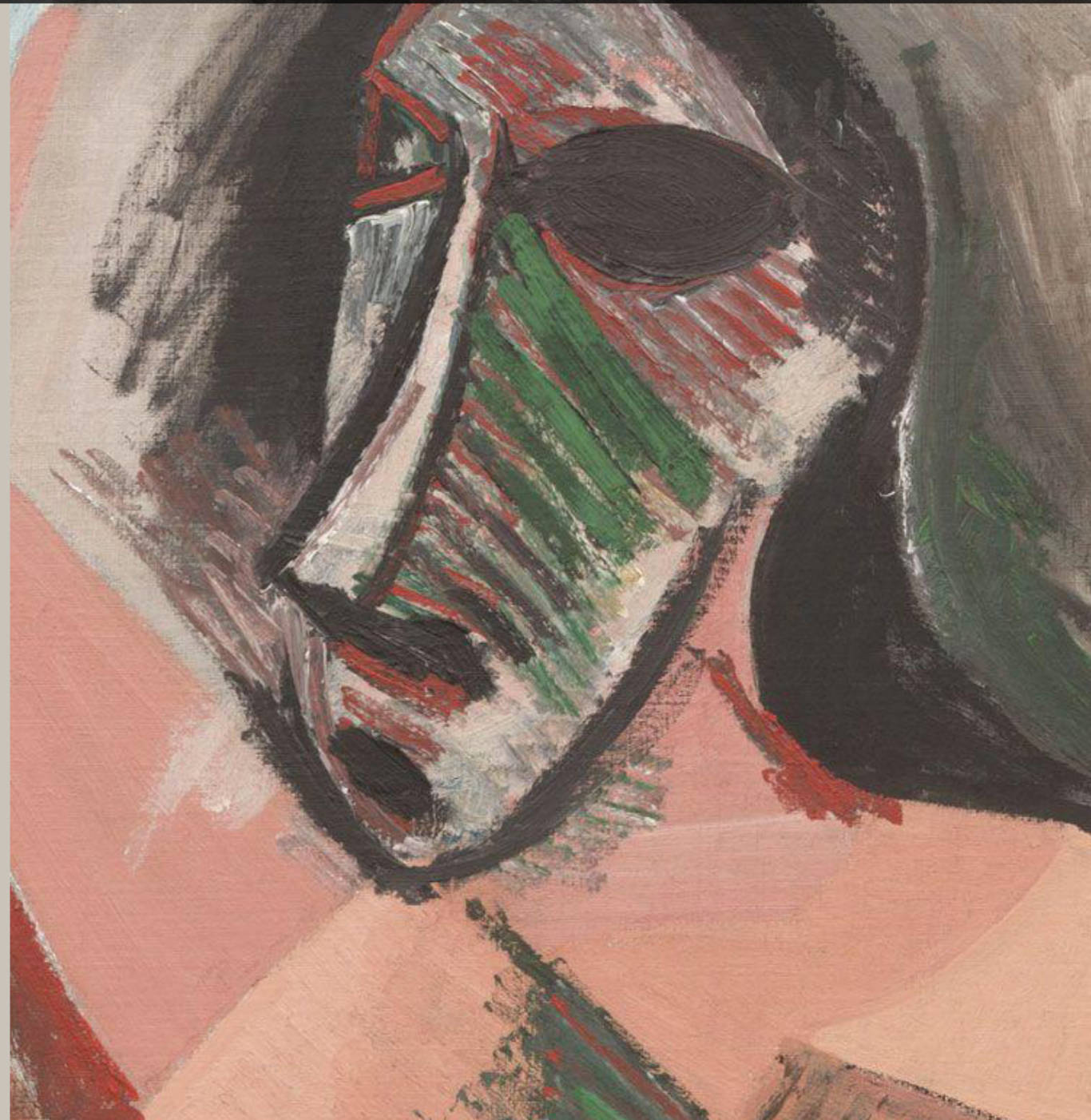
$2 \times 2 \times 2$



13x2x1

27

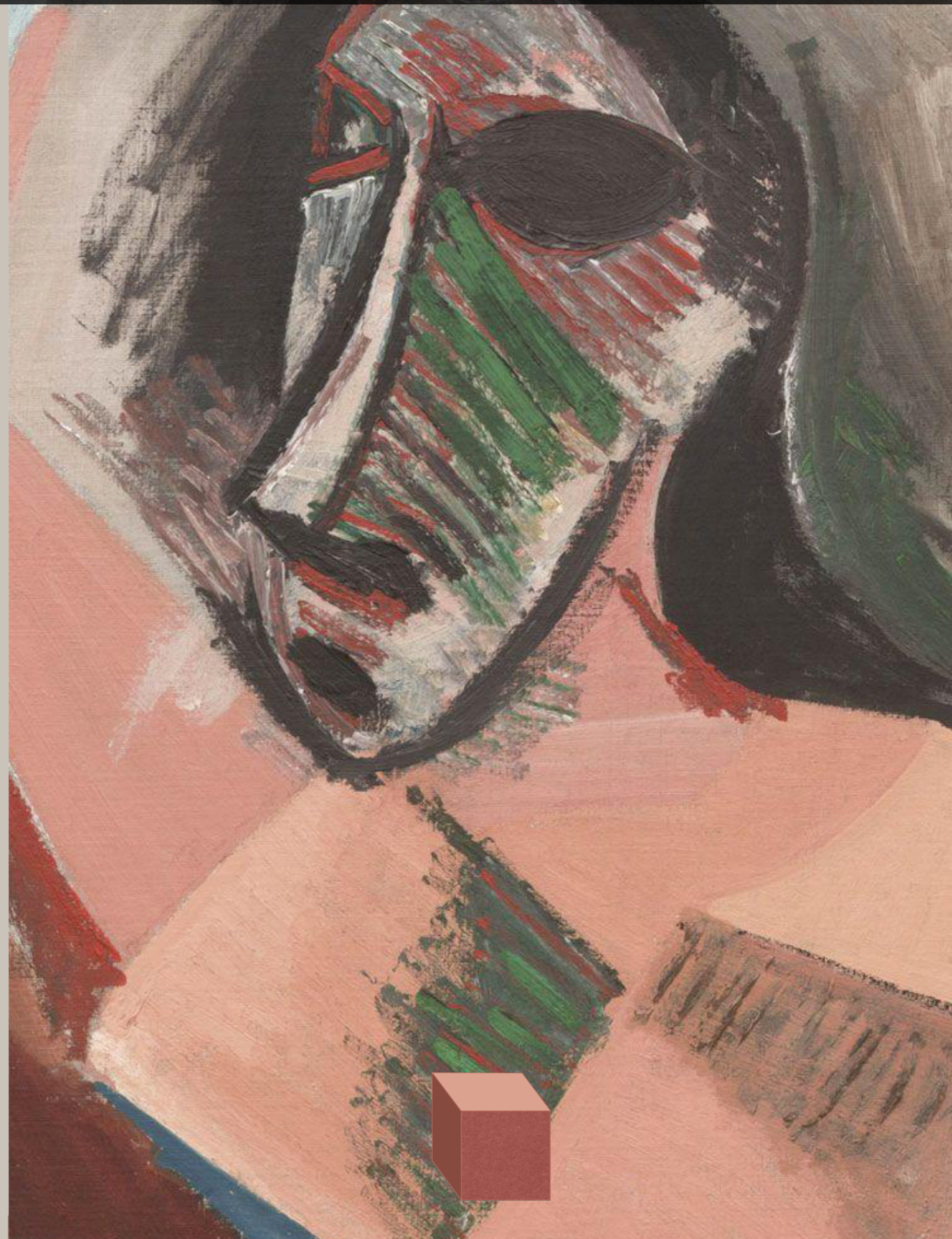
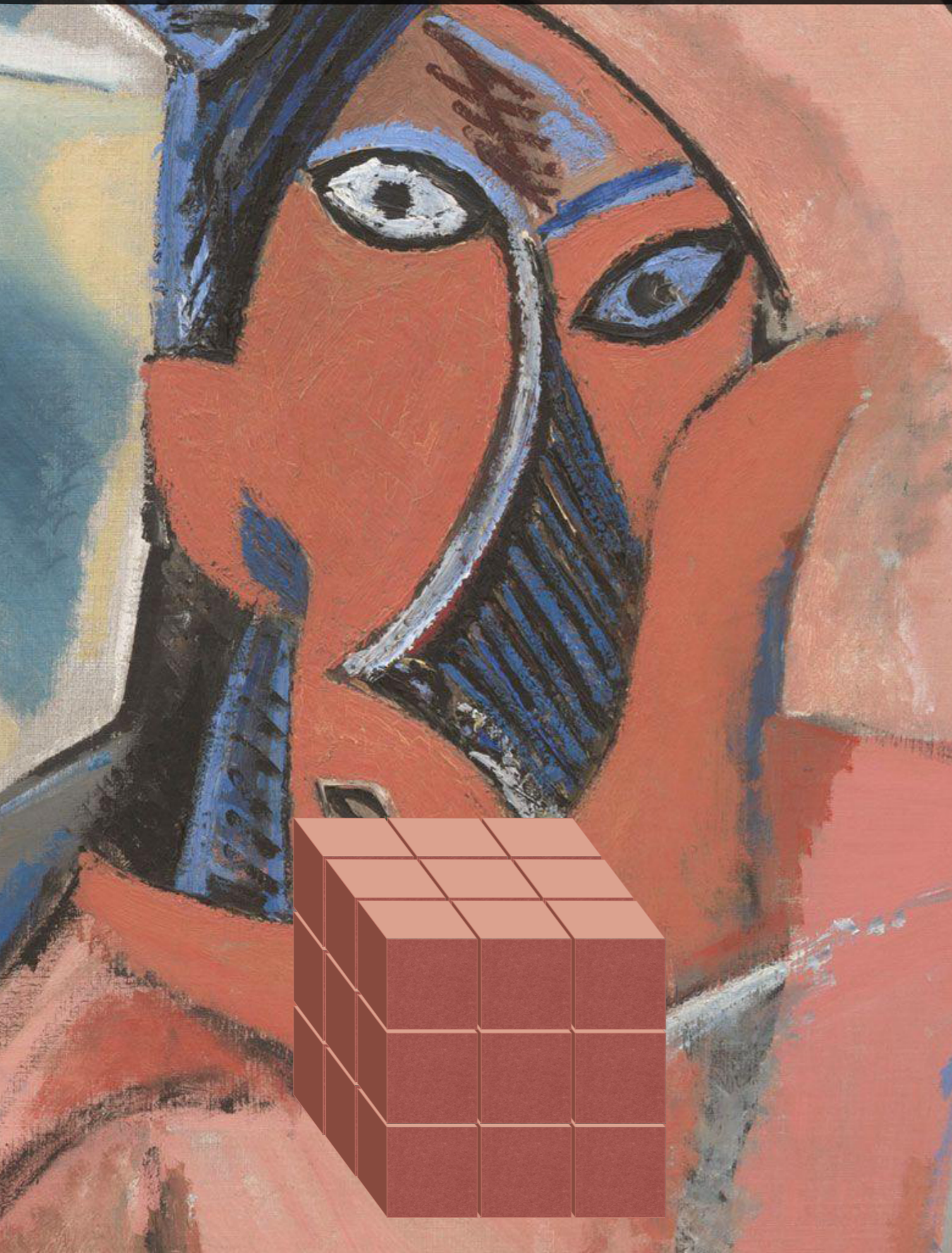
1x1x1



$3 \times 3 \times 3$

28

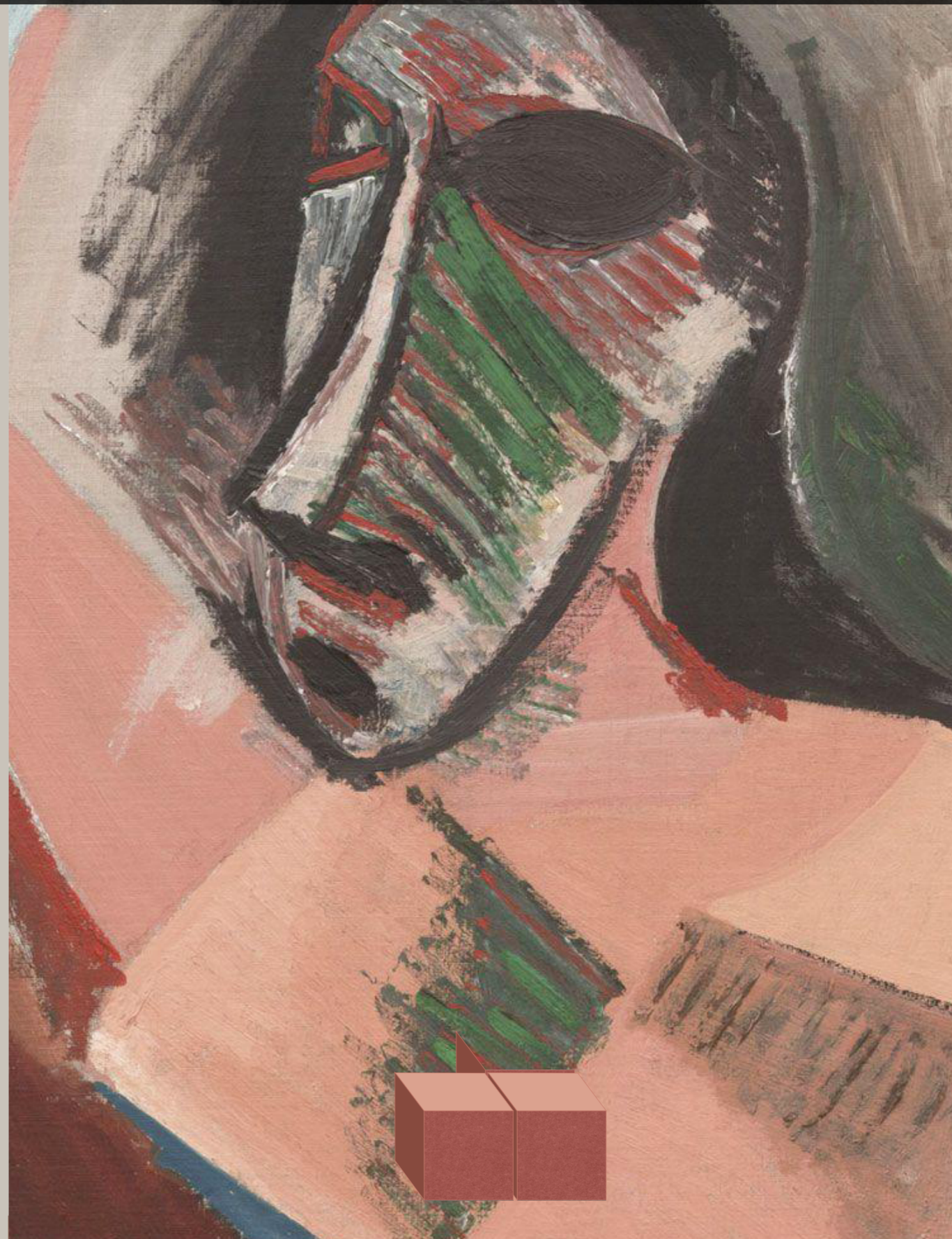
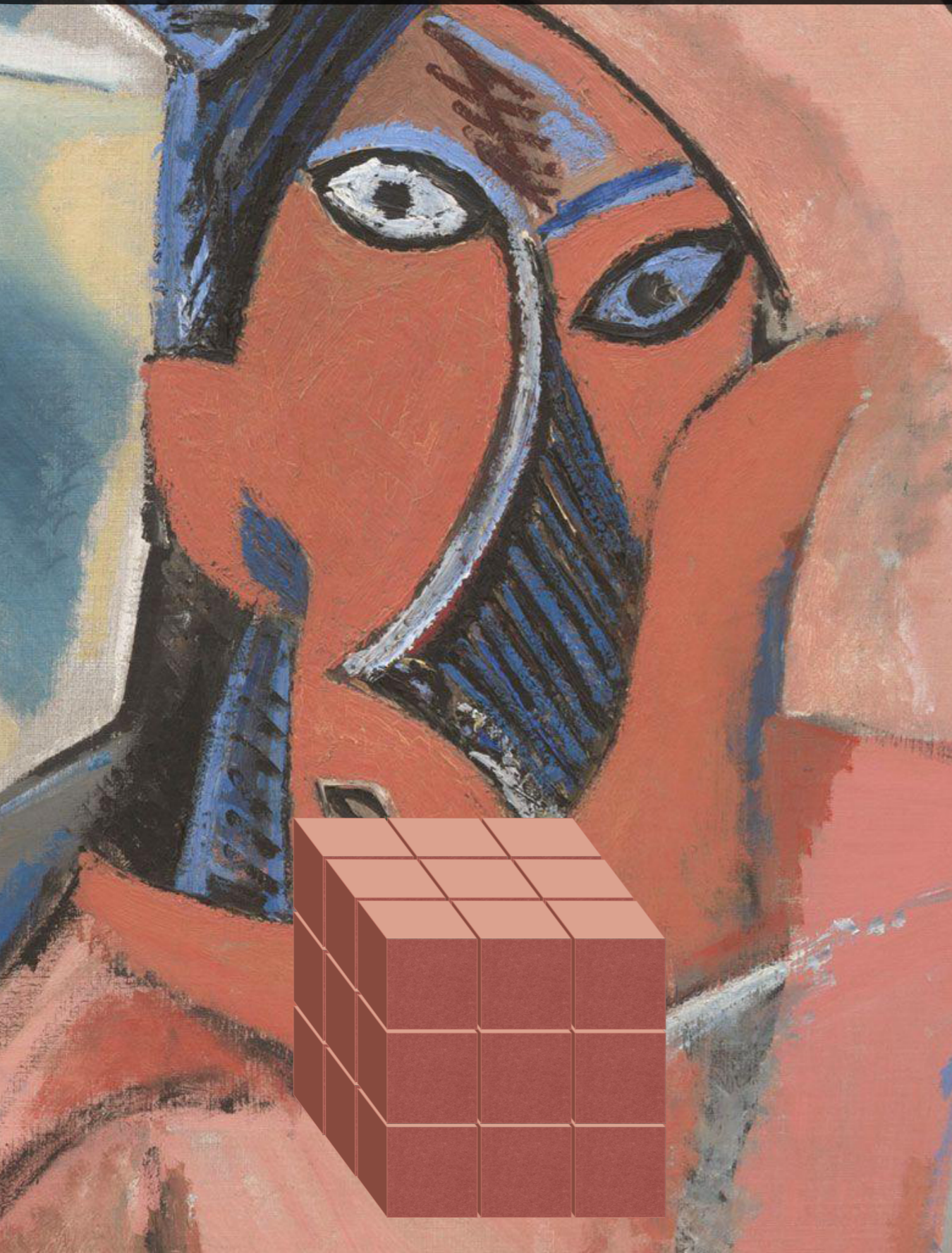
$1 \times 1 \times 1$



3x3x3

29

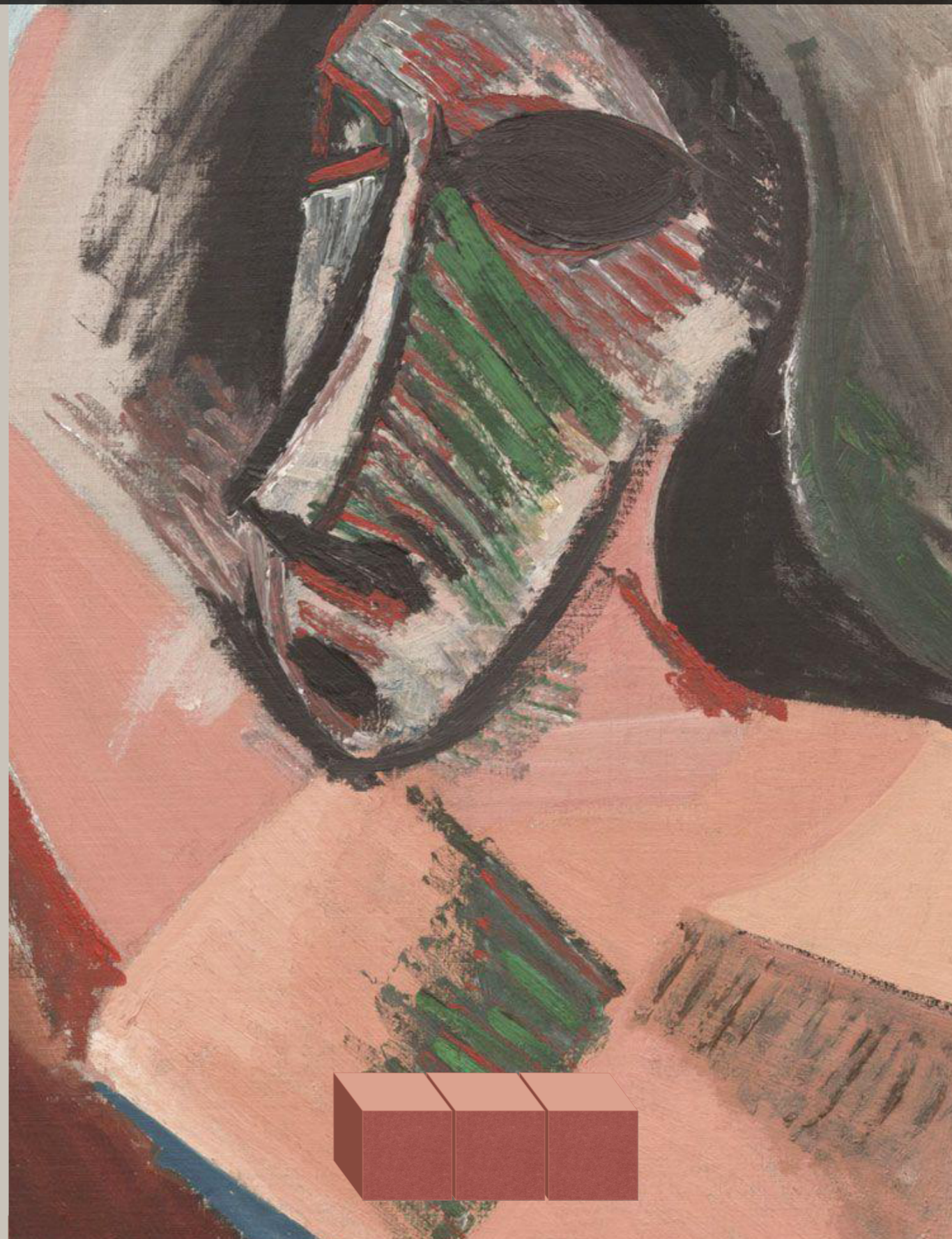
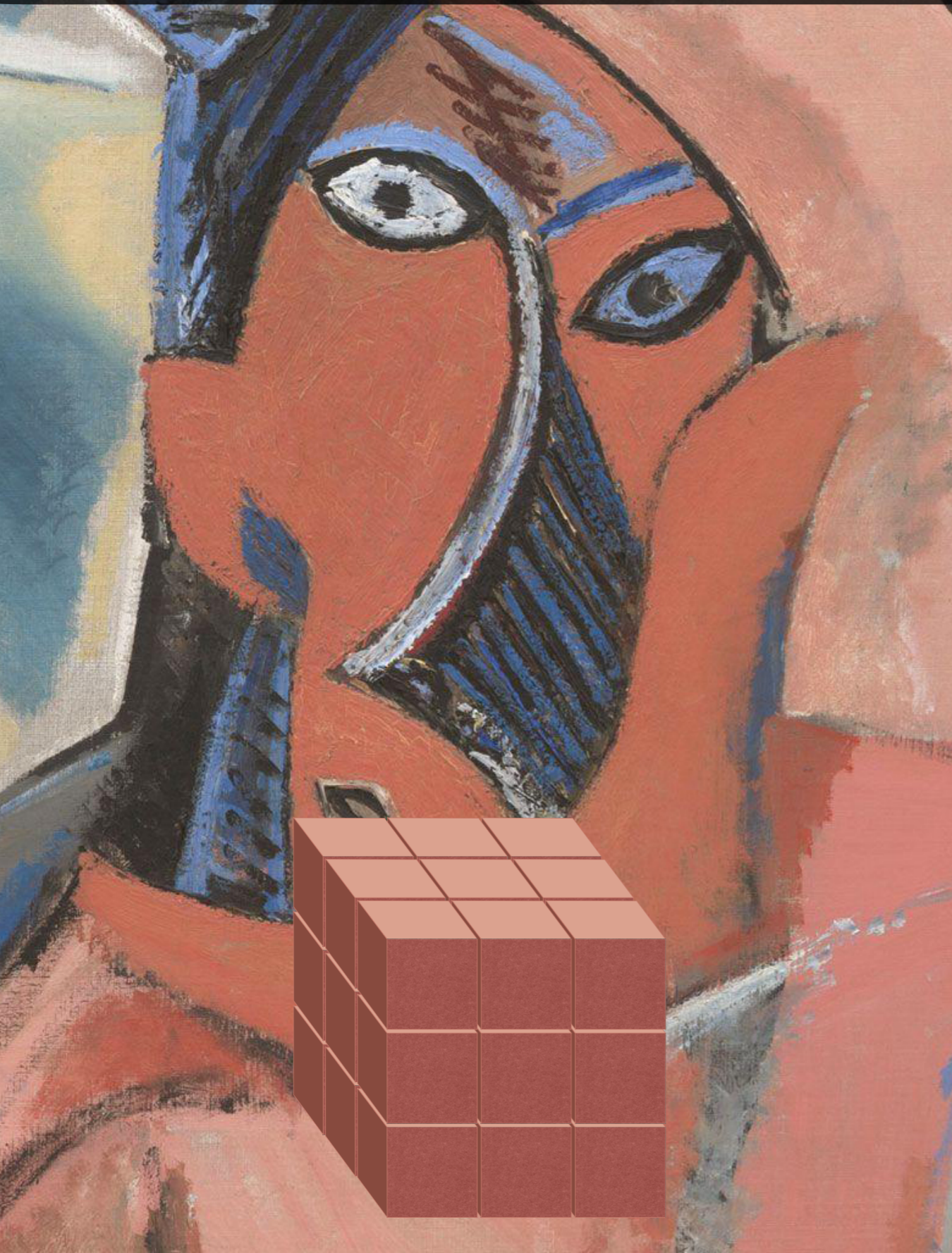
2x1x1



$3 \times 3 \times 3$

**30**

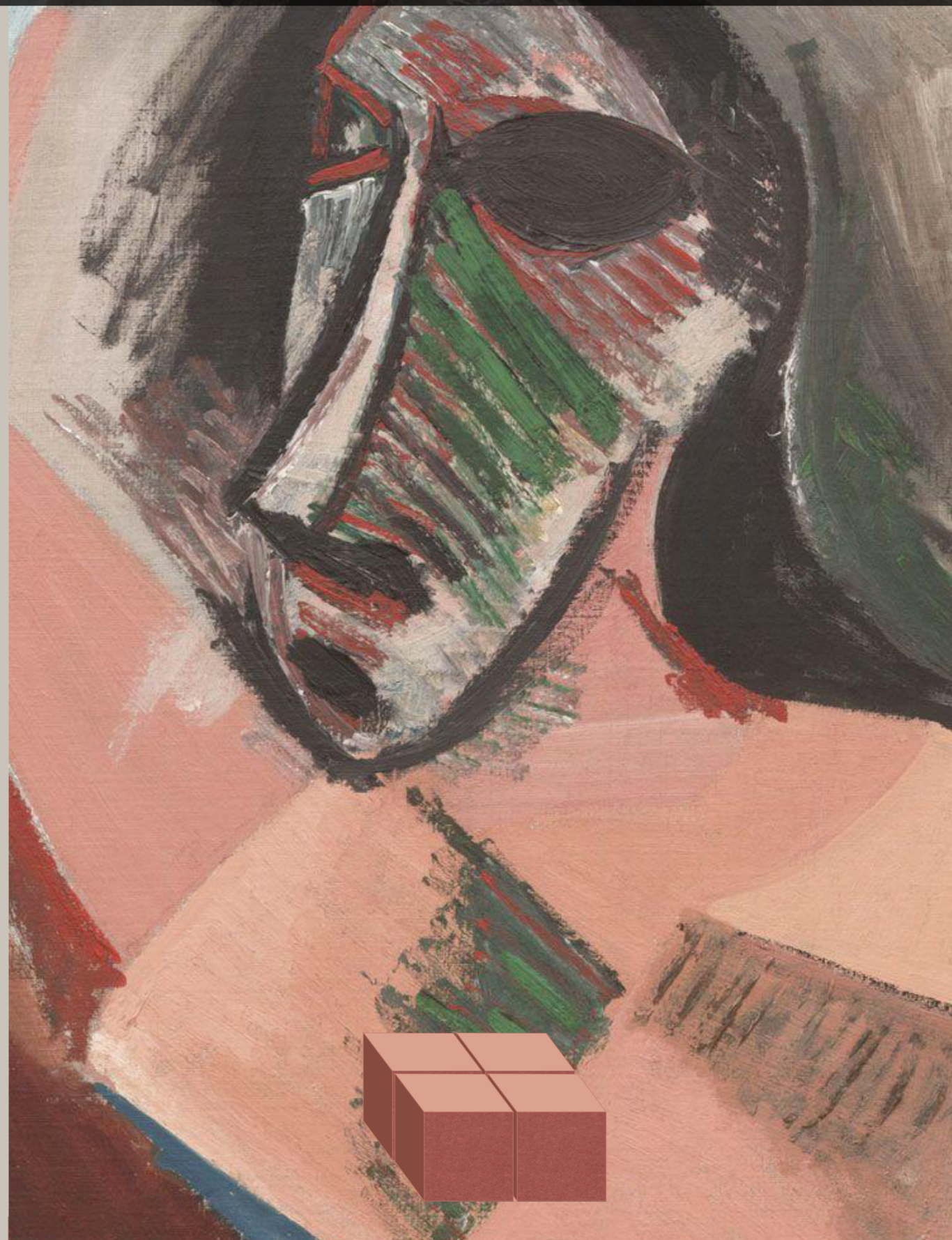
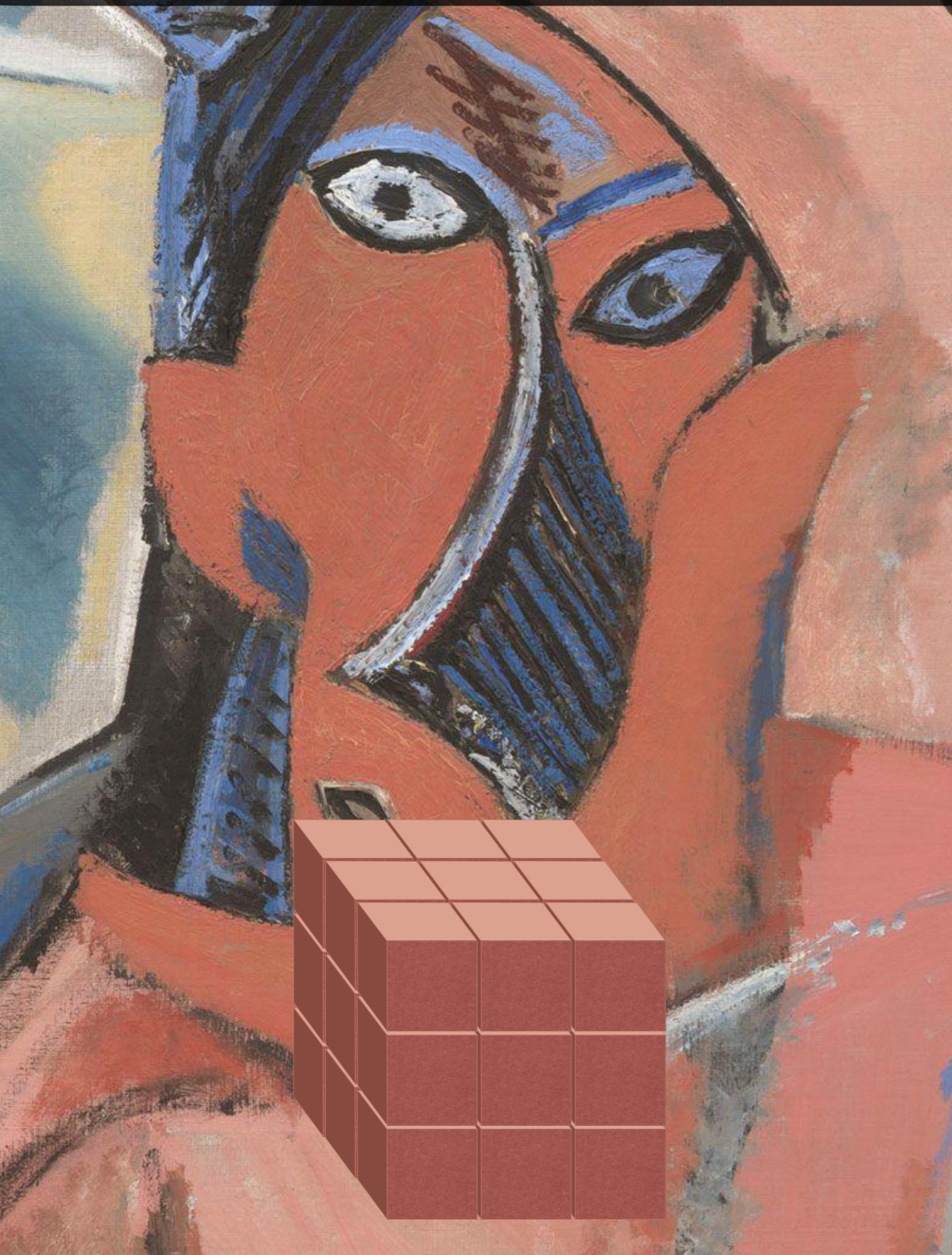
$3 \times 1 \times 1$



3x3x3

31

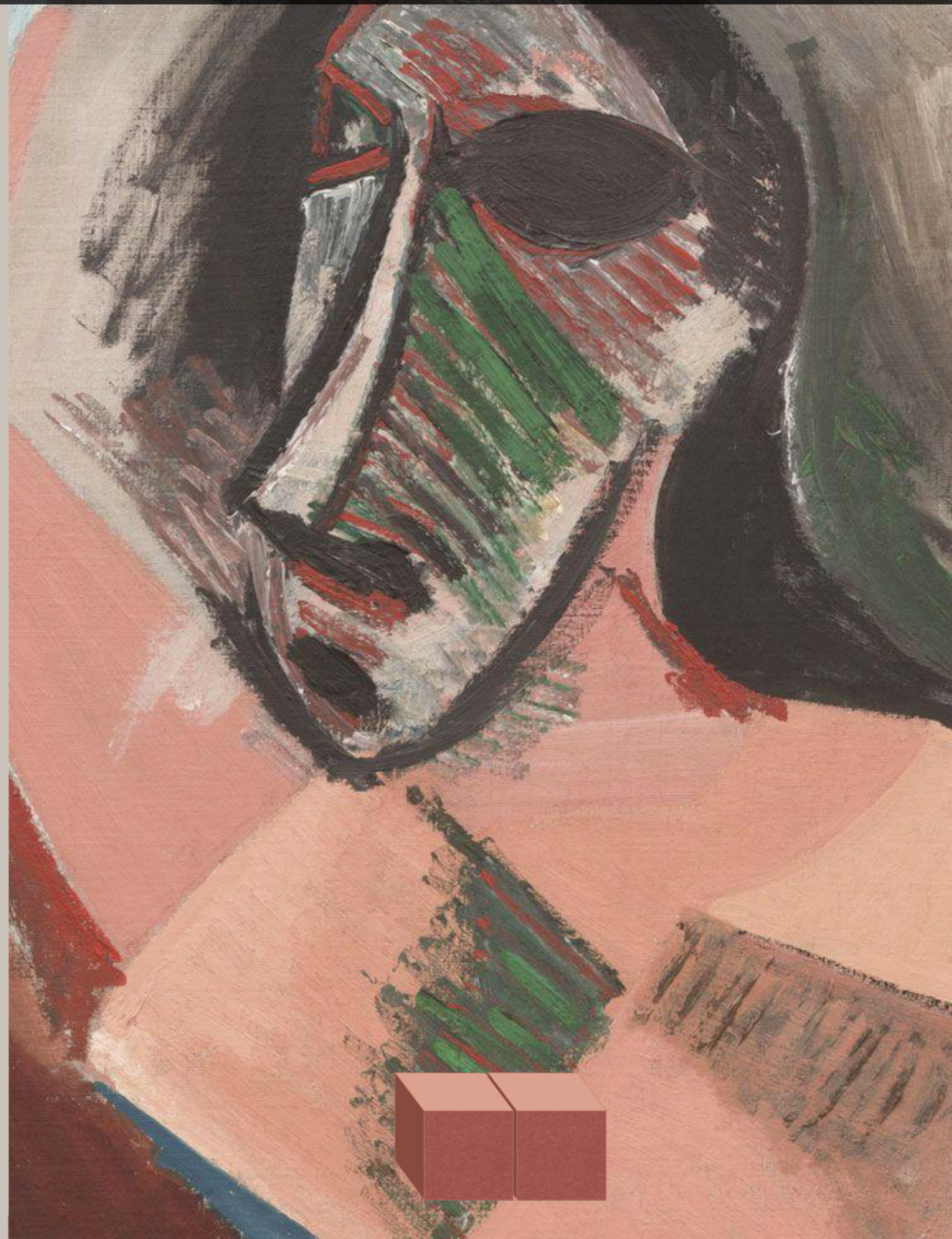
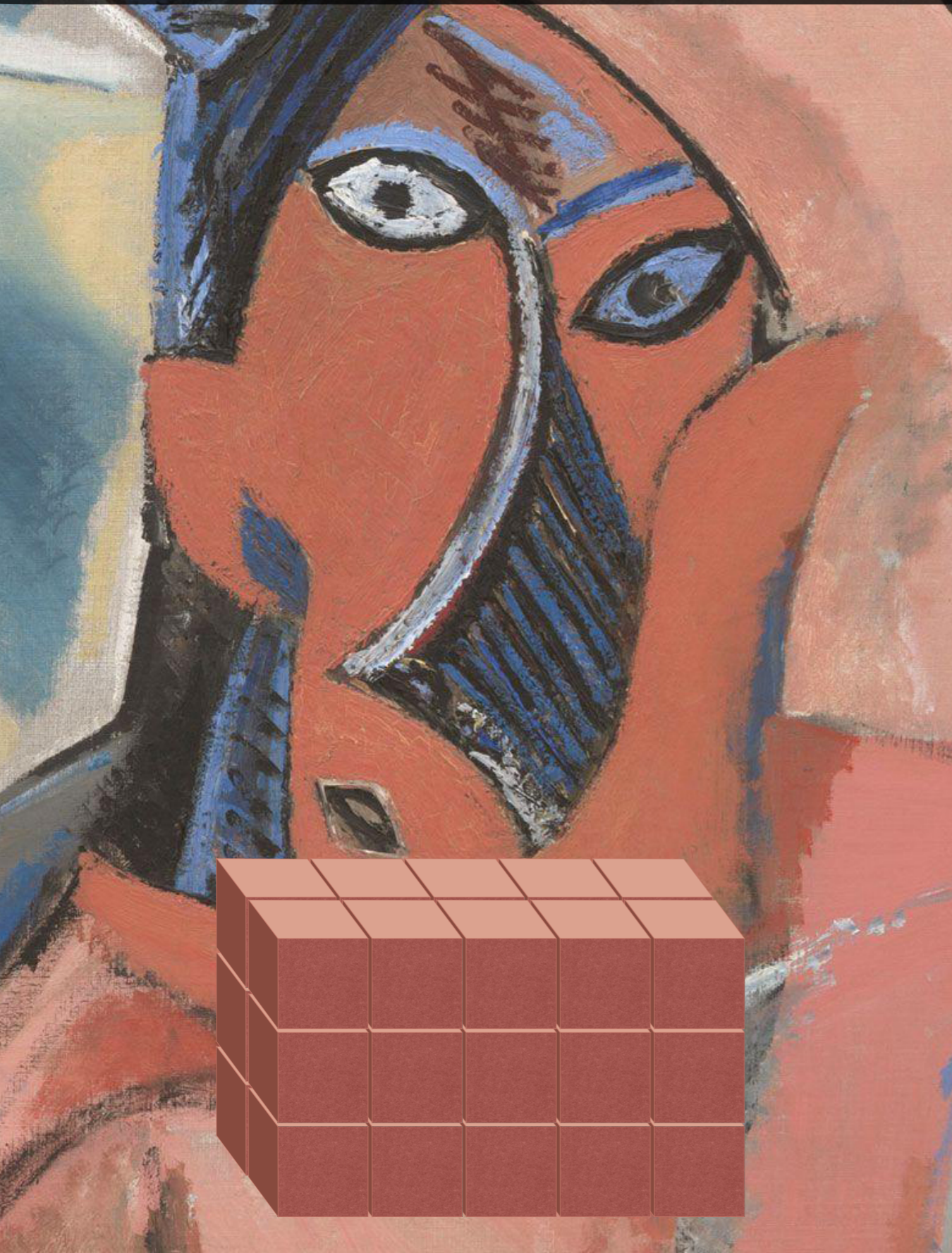
2x2x1



$5 \times 3 \times 2$

$3^2$

$2 \times 1 \times 1$

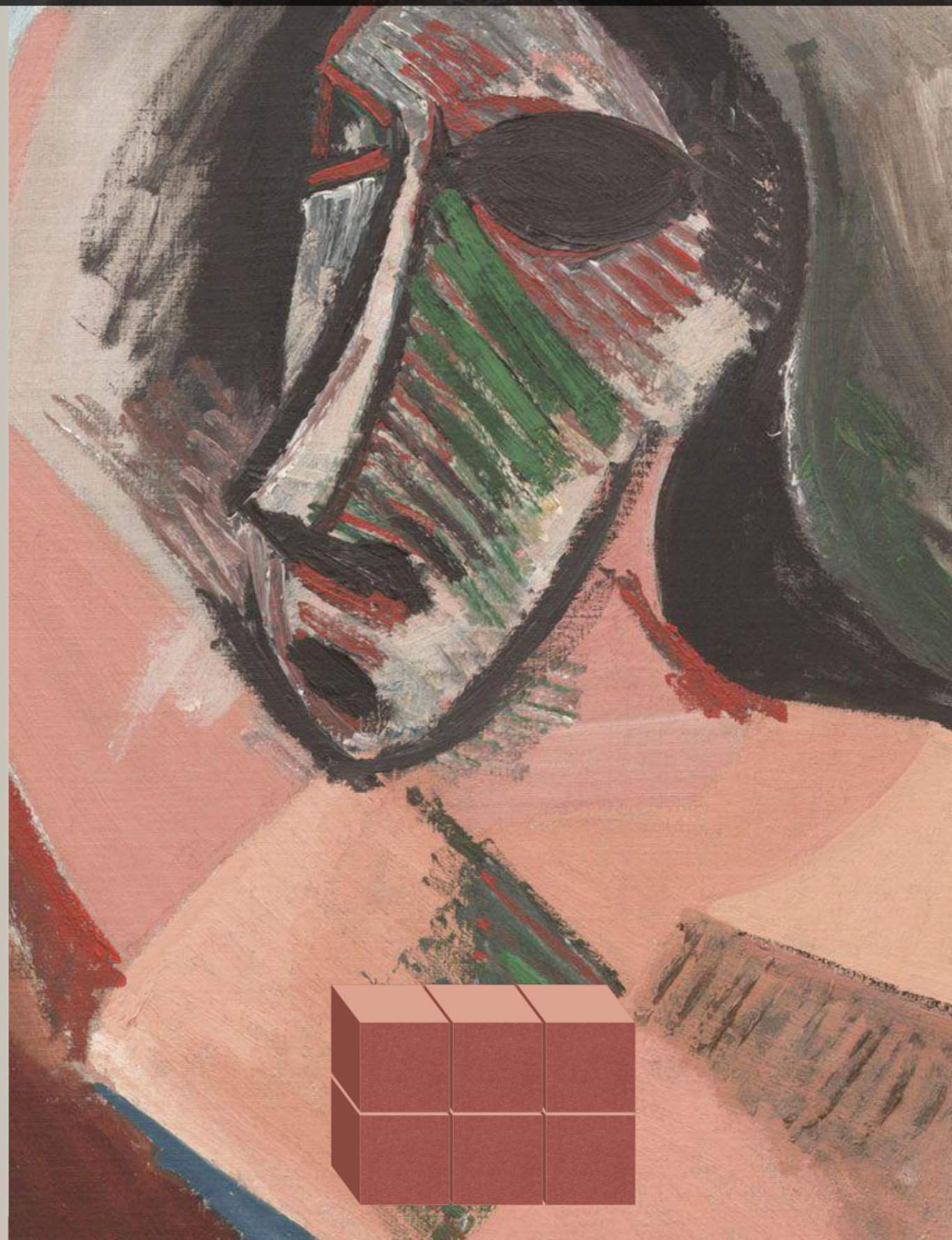
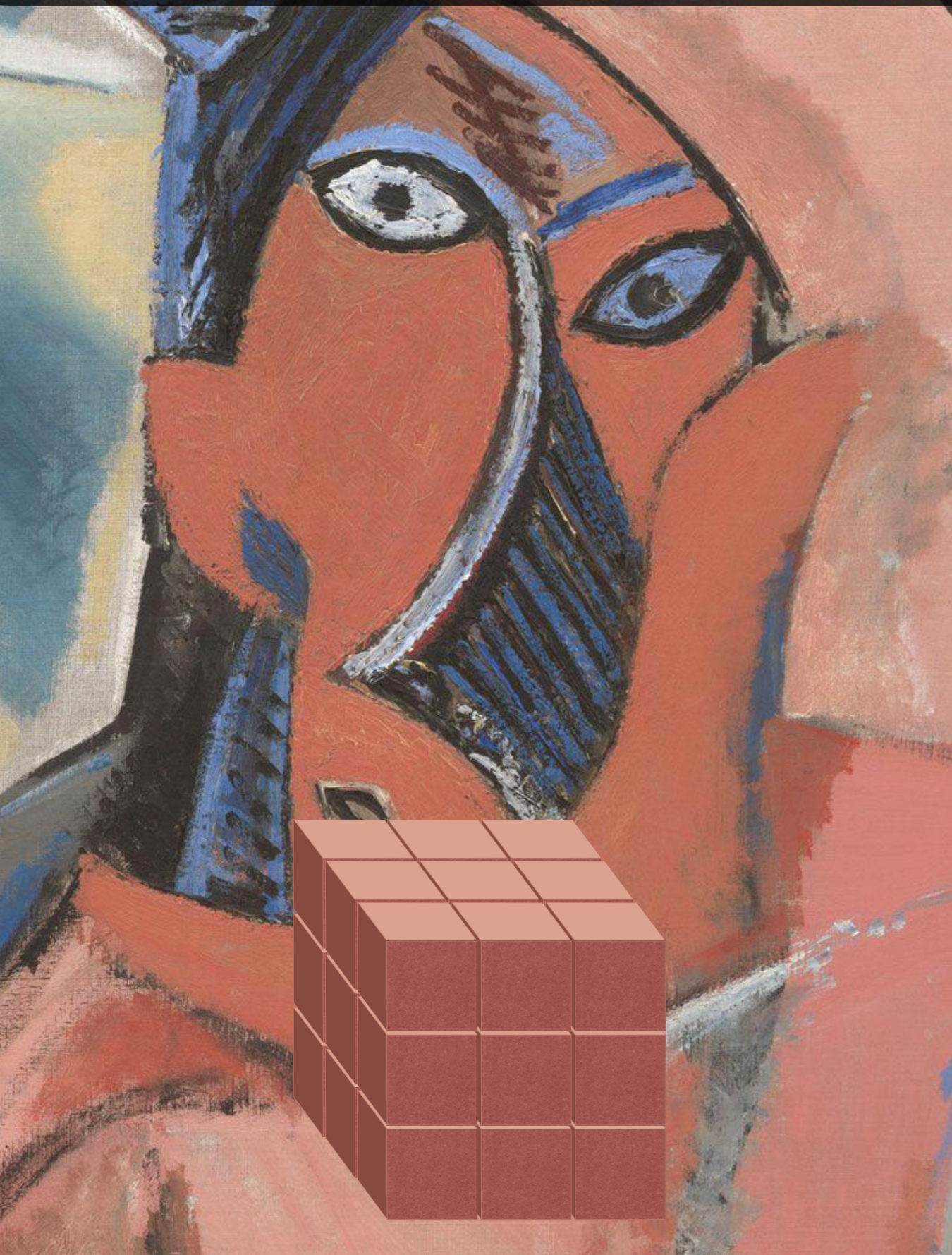




$3 \times 3 \times 3$

**33**

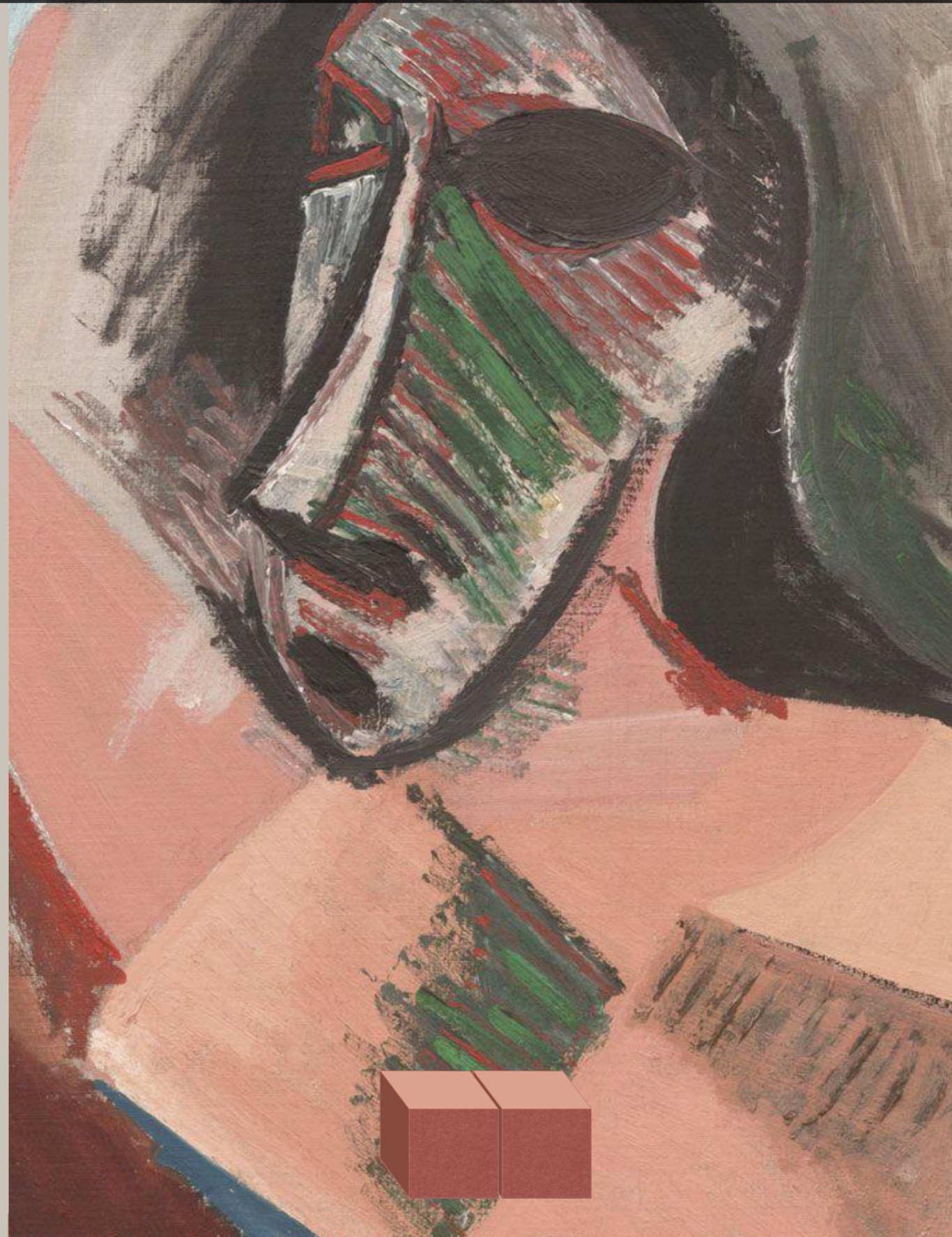
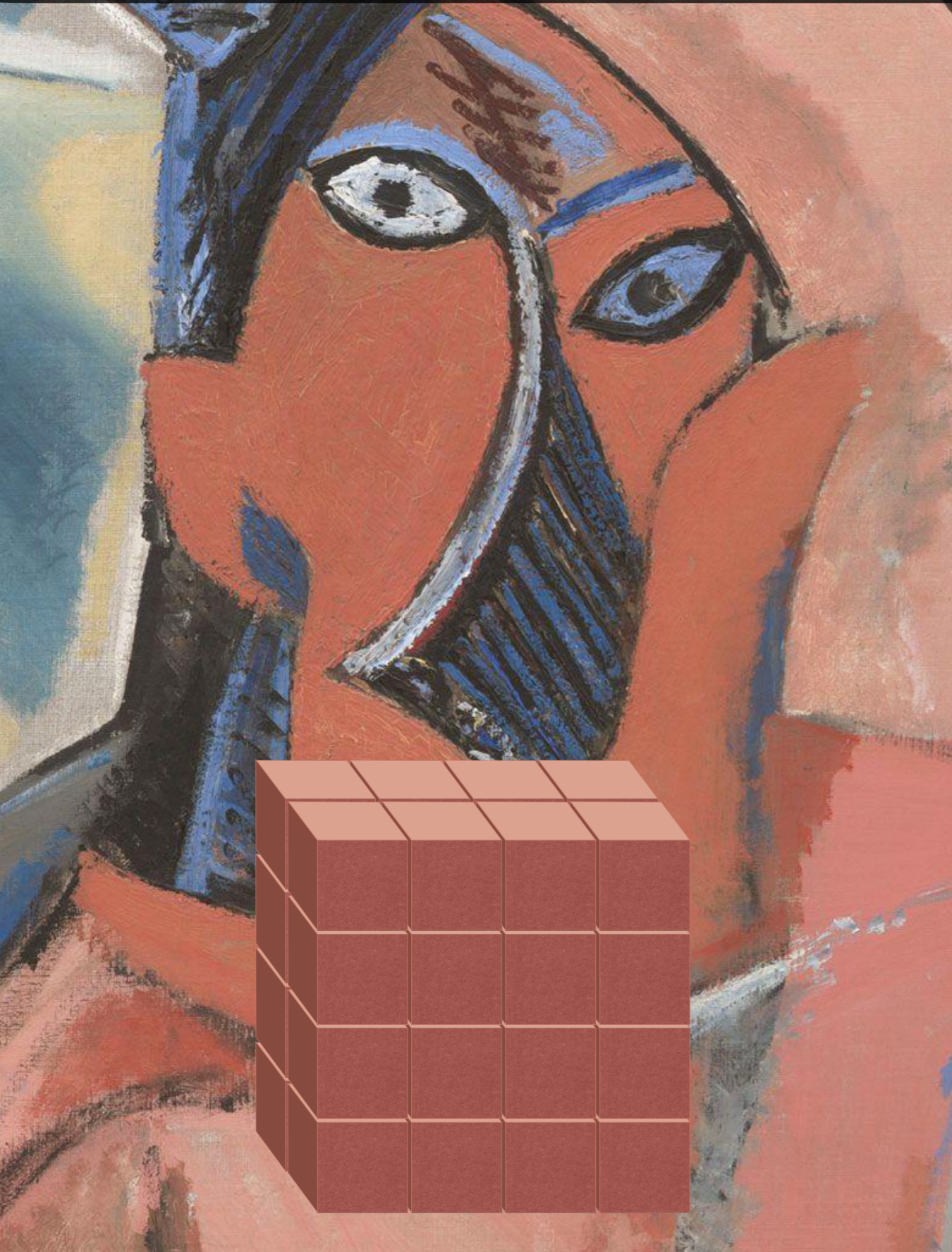
$3 \times 2 \times 1$



4x4x2

34

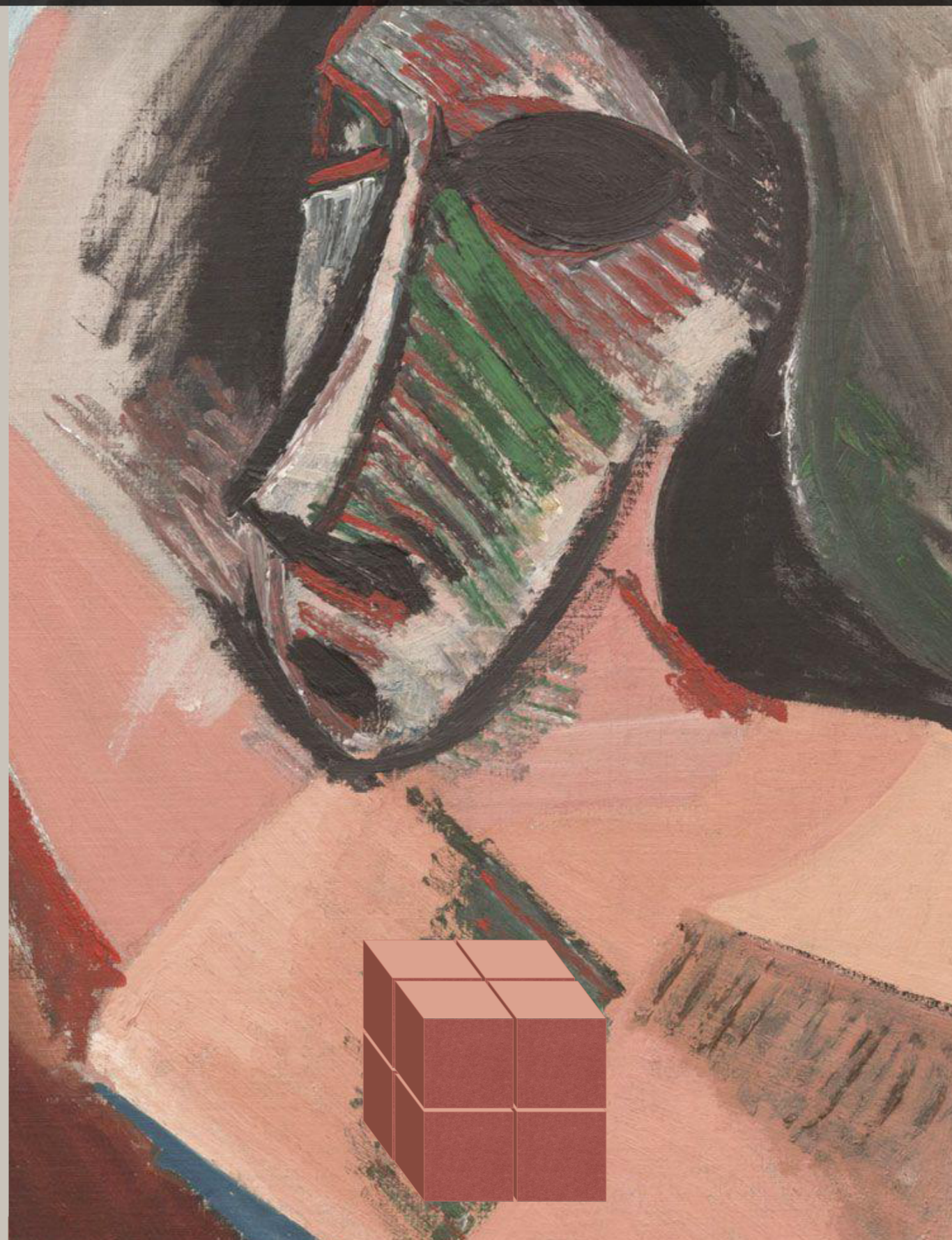
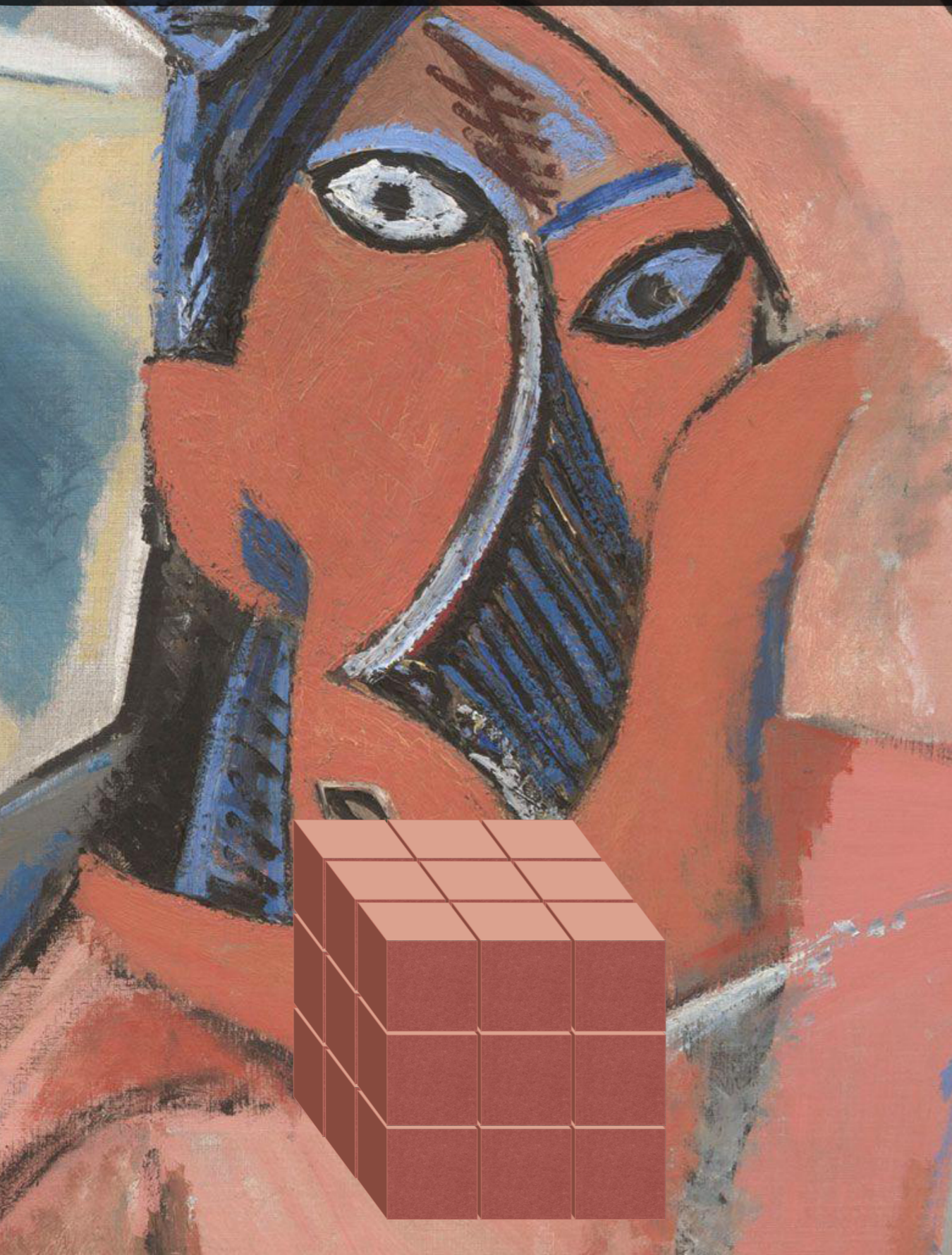
2x1x1



3x3x3

35

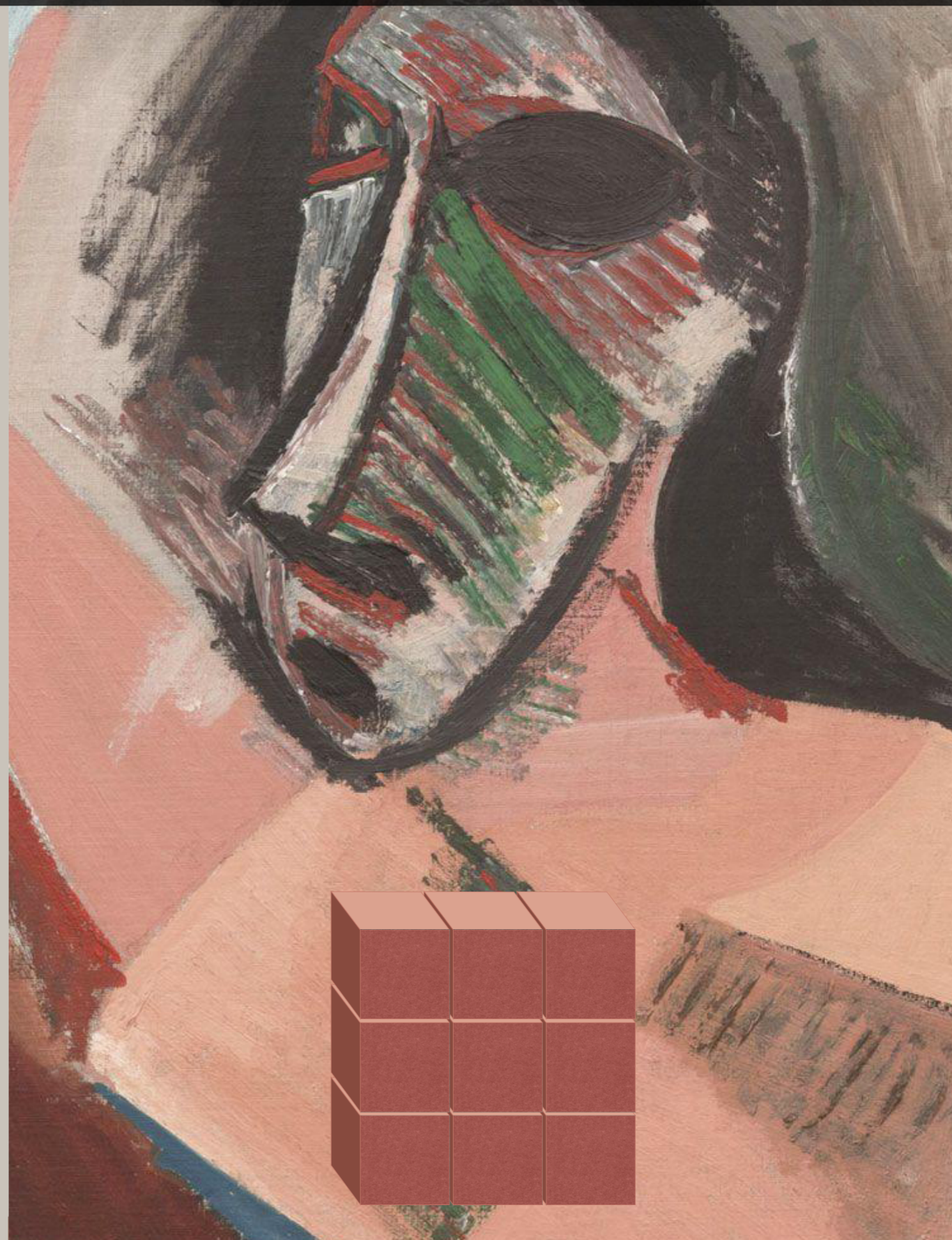
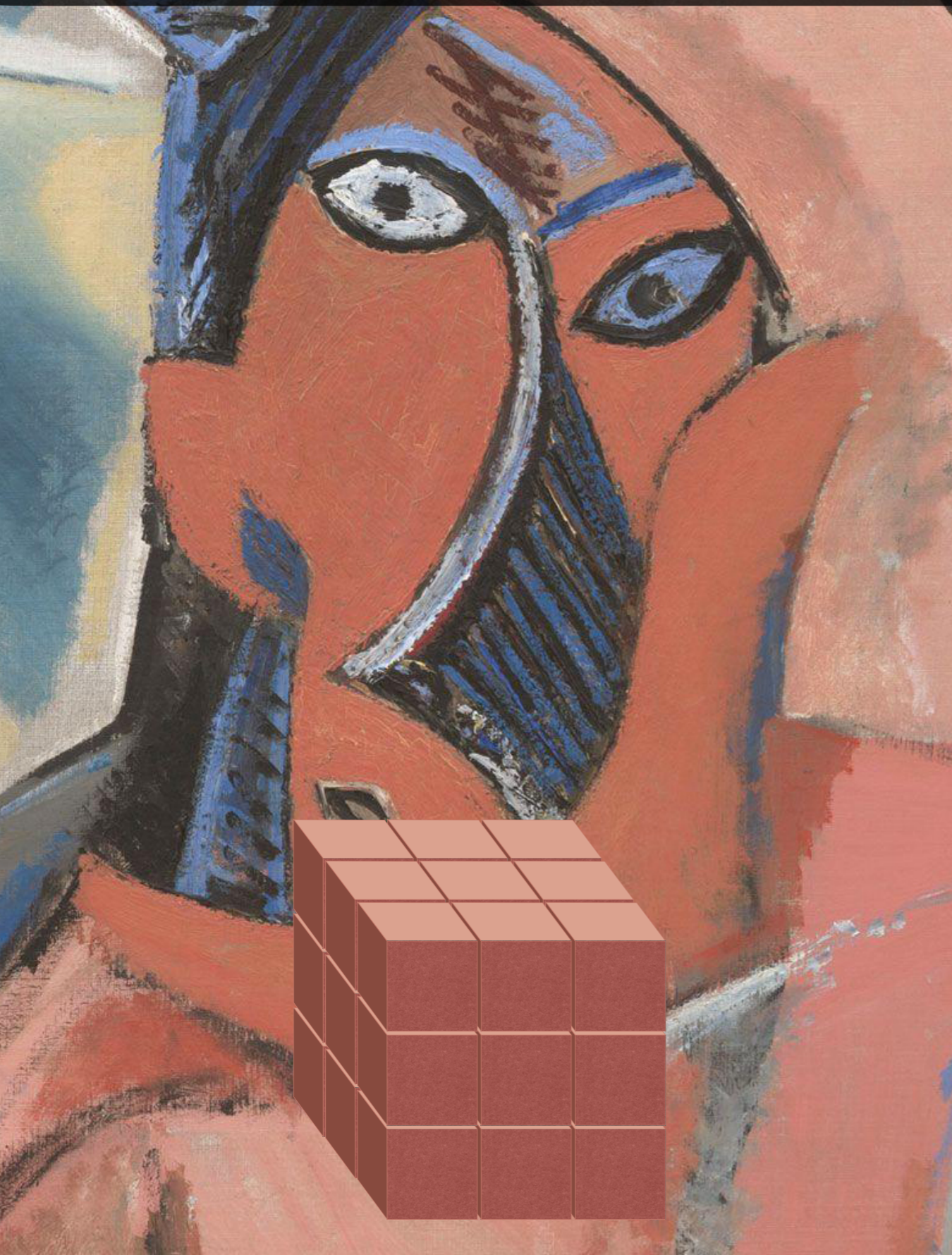
2x2x2



$3 \times 3 \times 3$

**36**

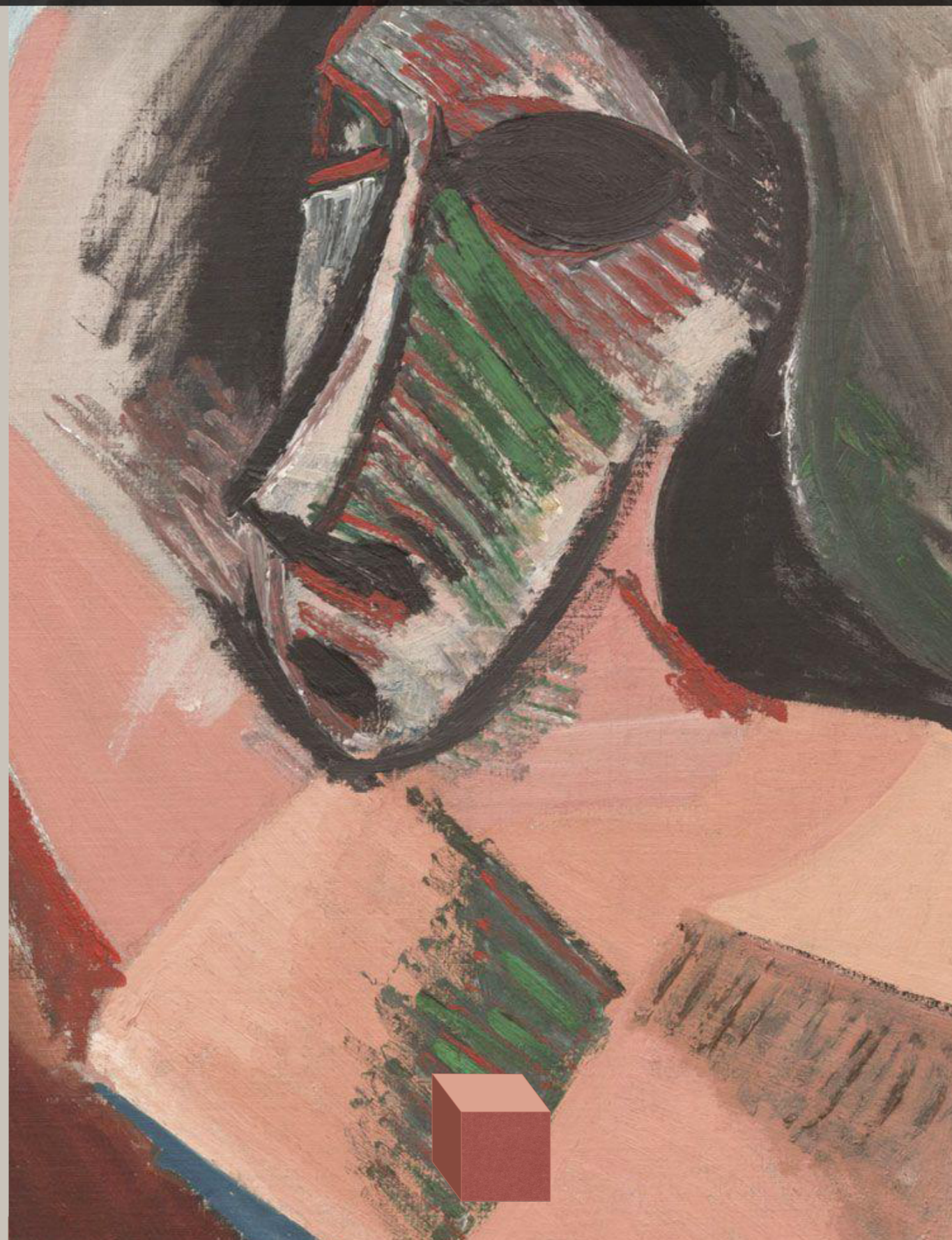
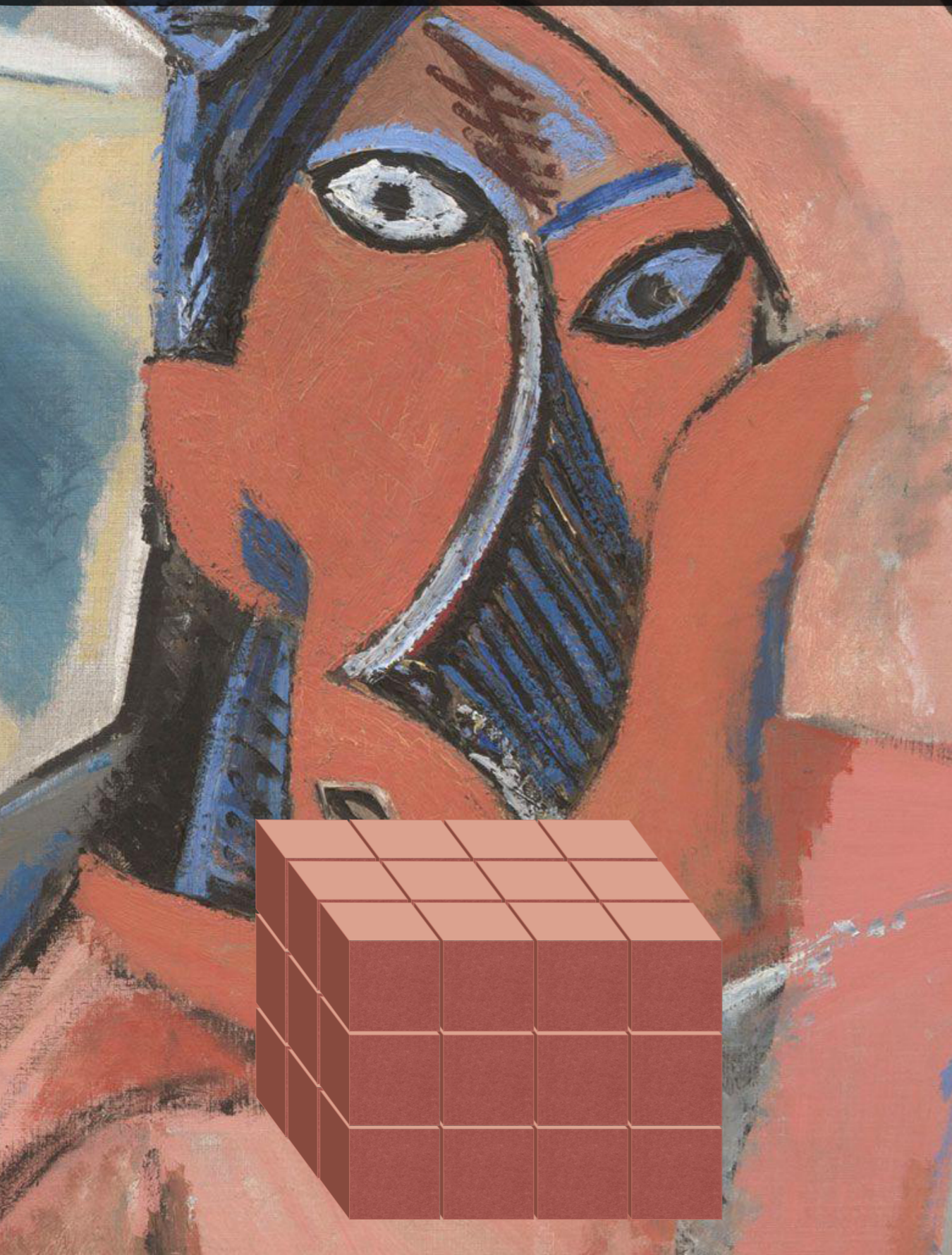
$3 \times 3 \times 1$



4x3x3

37

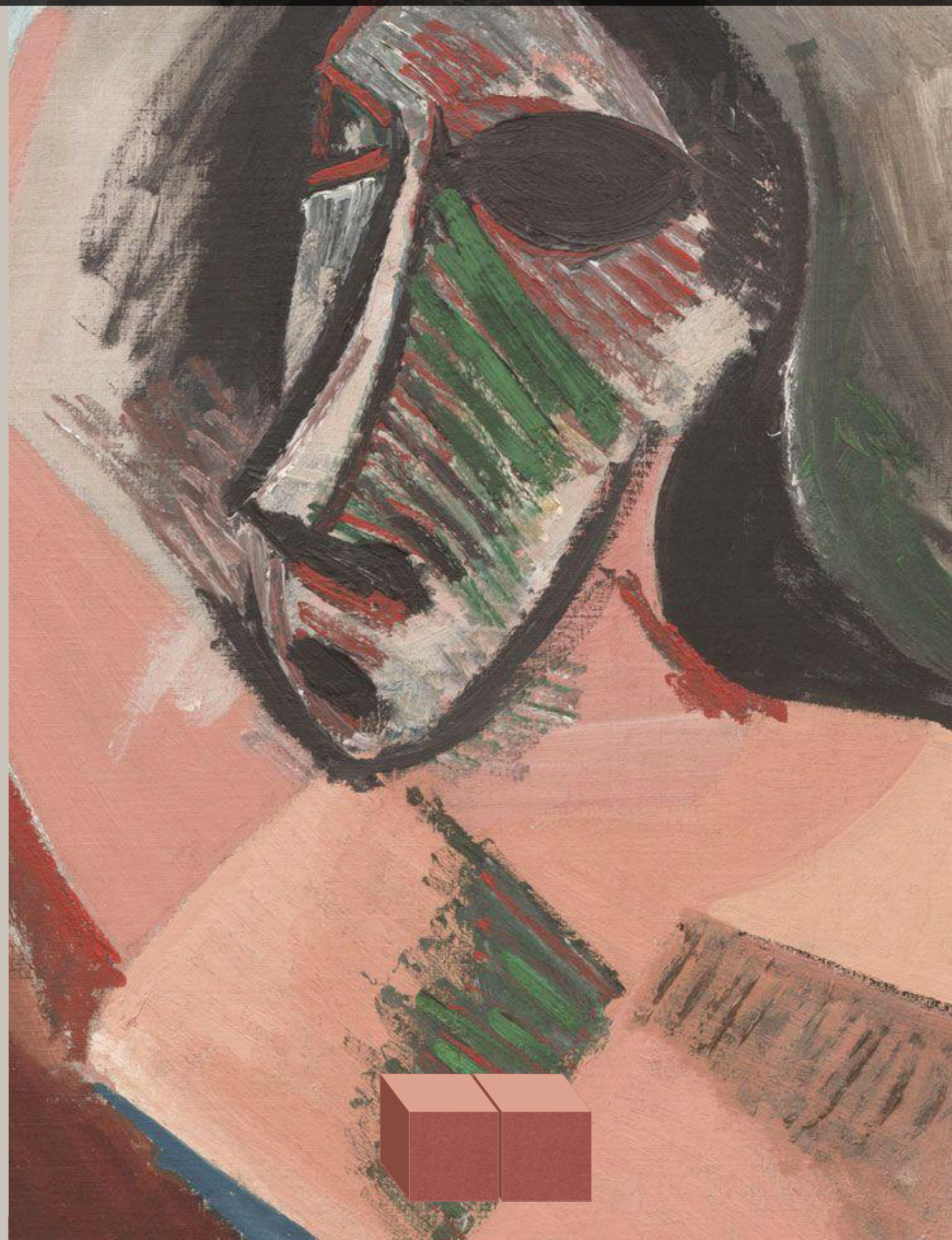
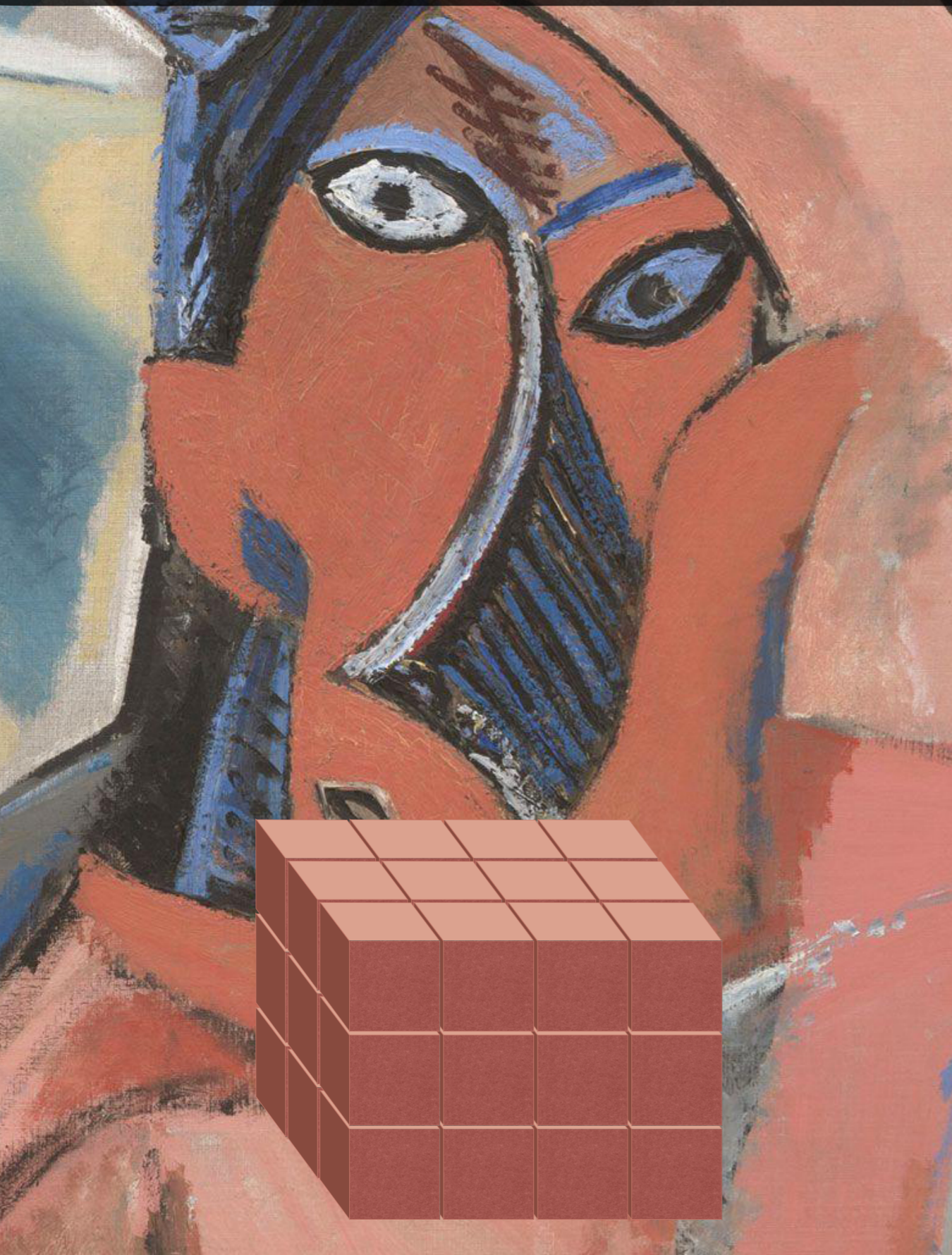
1x1x1



4x3x3

38

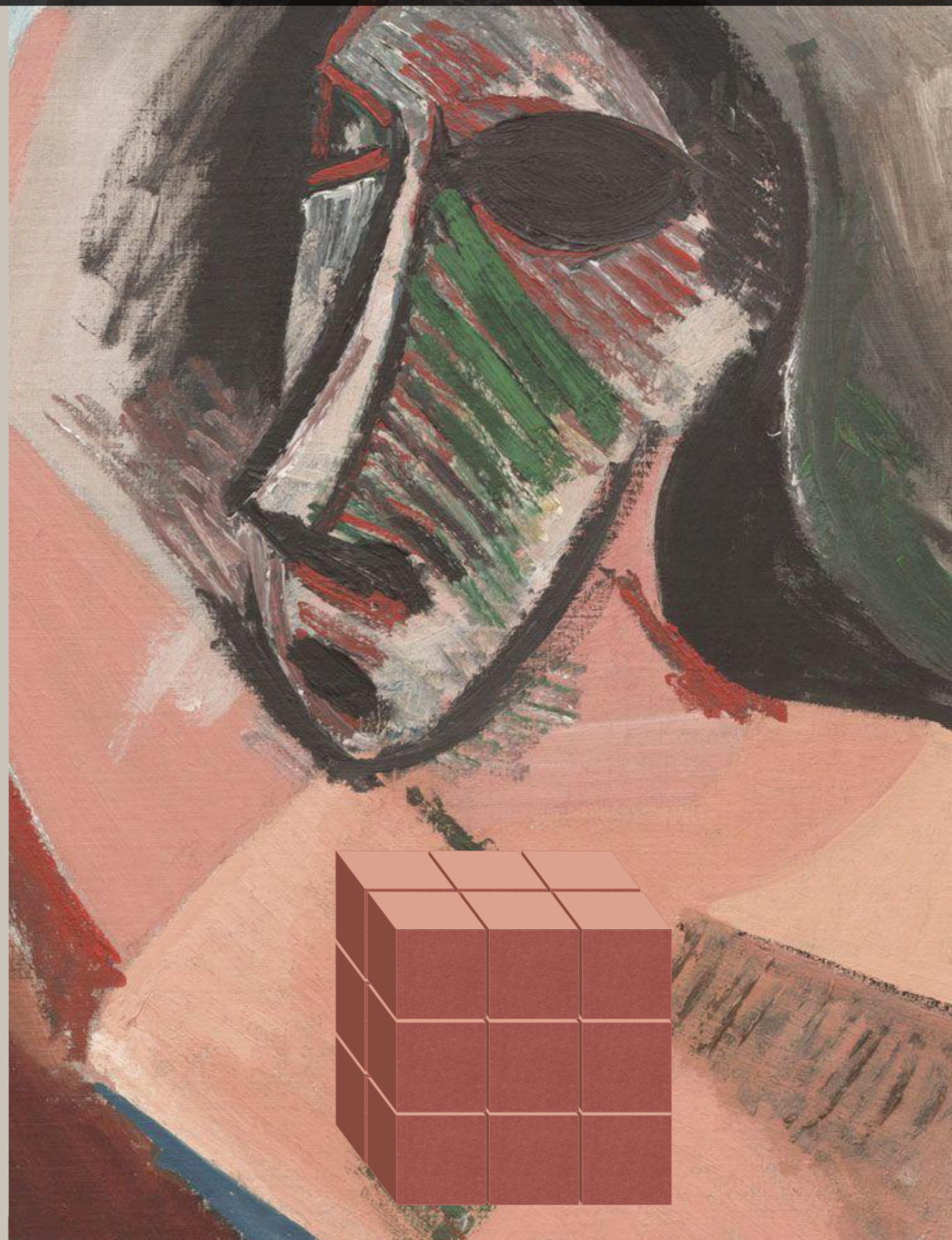
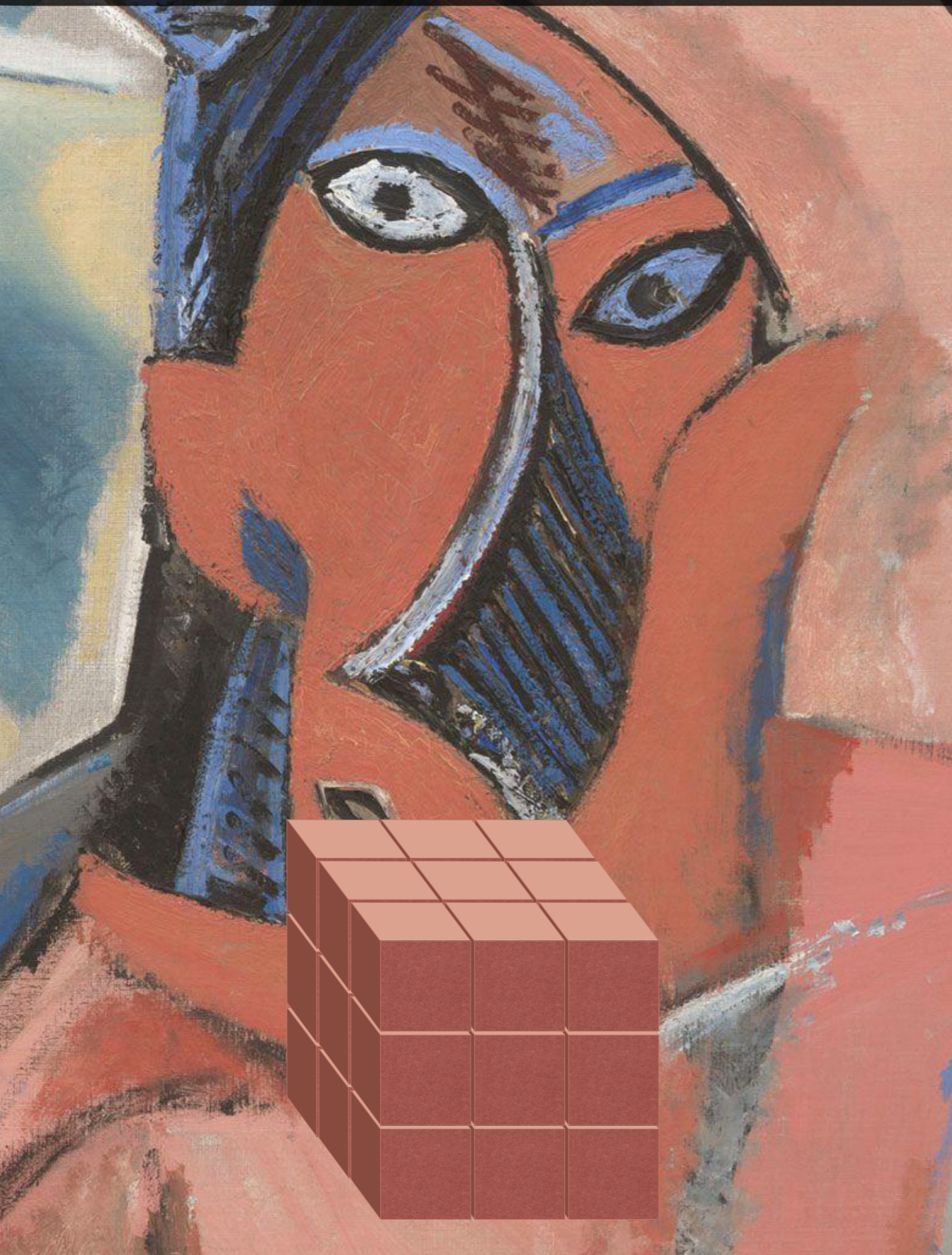
2x1x1



$3 \times 3 \times 3$

**39**

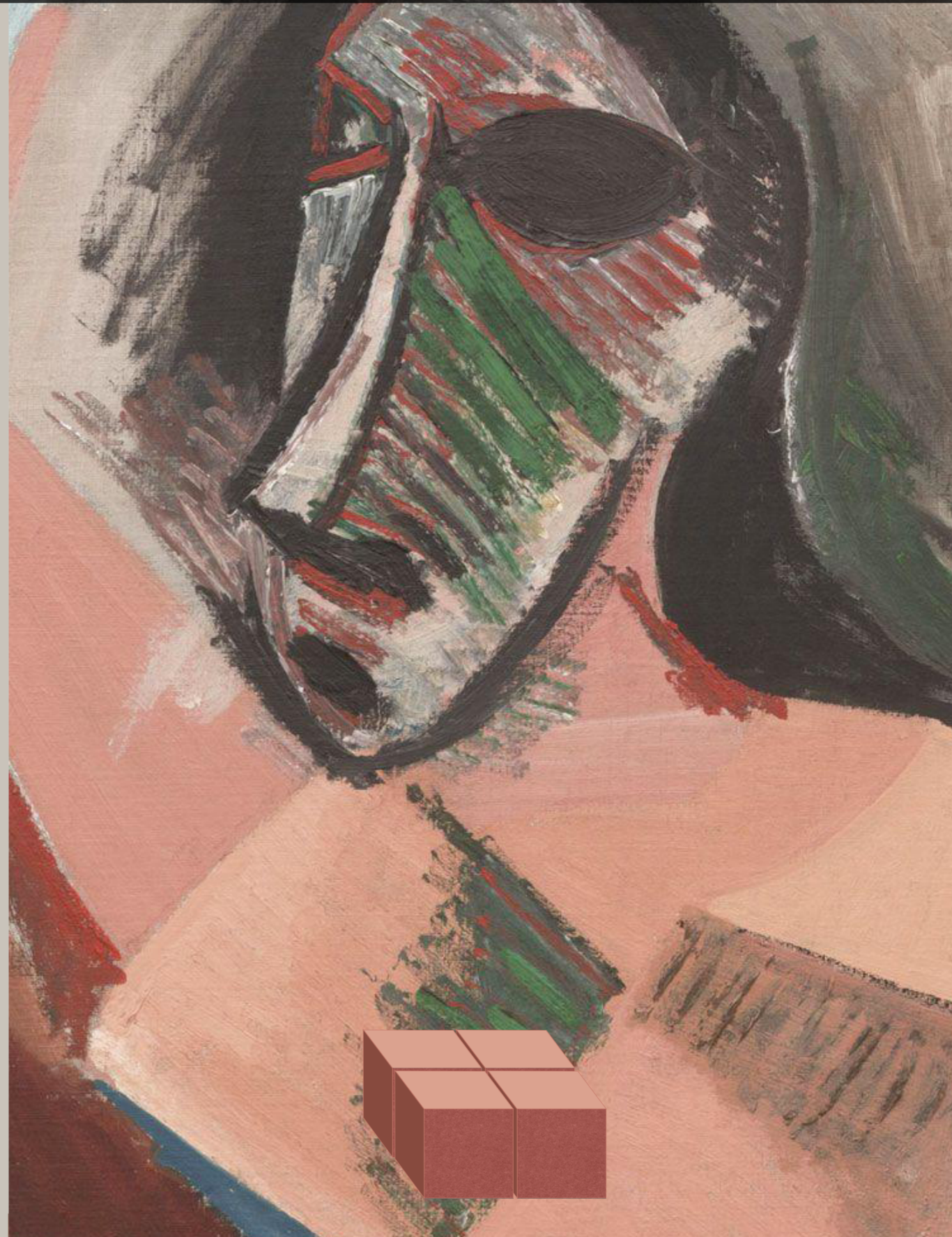
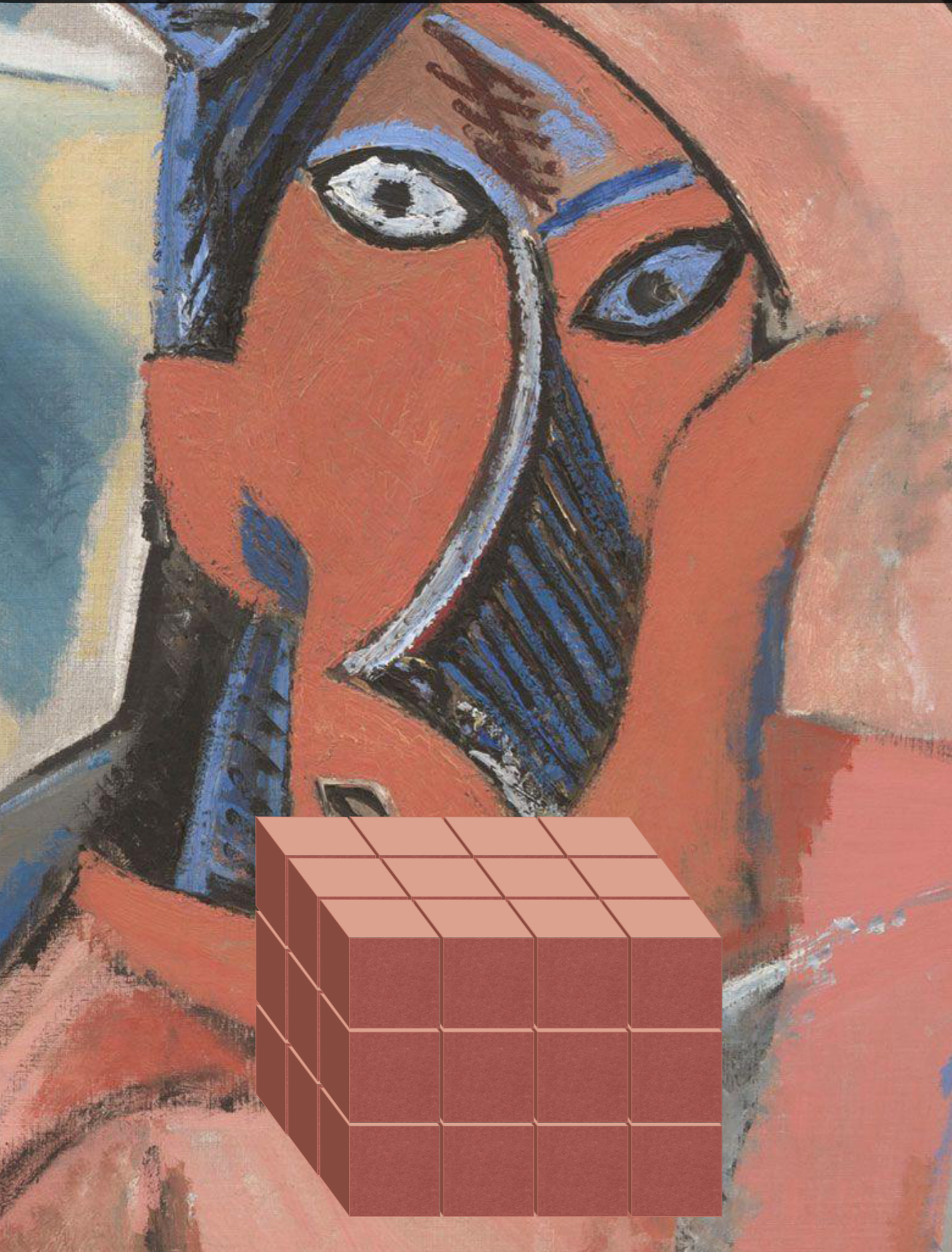
$3 \times 2 \times 2$



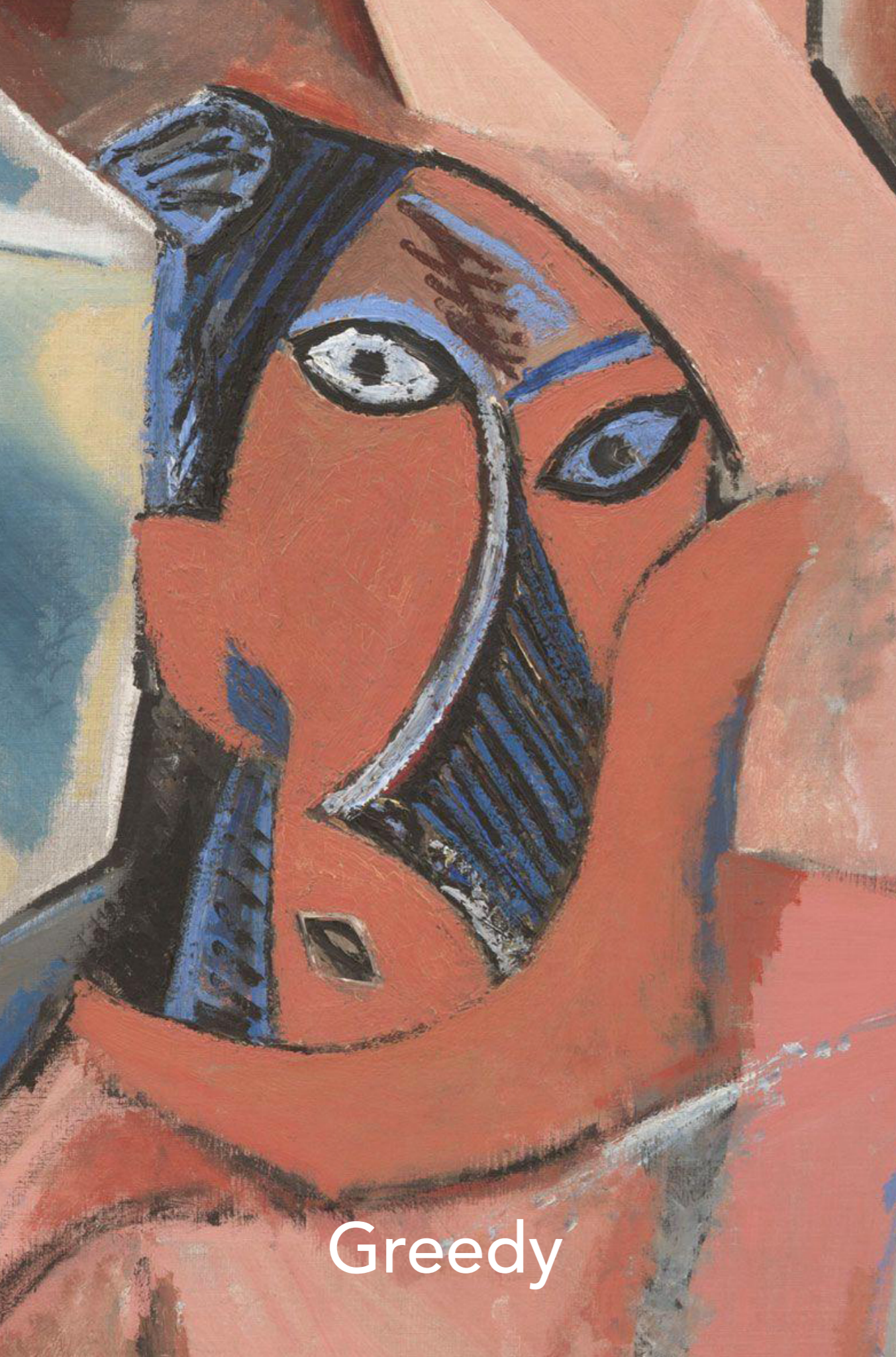
4x3x3

40

2x2x1







Greedy



Generous

Picasso's  
Cuboids Puzzle

1x1x1

42

1x1x1

